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Symptomatology in the Early Diagnosis of Pulmonary Tuberculosis

• Christopher J. Stringer, M.D., Resident Physician, Herman Kiefer Hospital, Detroit, Michigan

THIS study was prompted by the observation that a very high percentage of patients being admitted to sanatoria for the treatment of pulmonary tuberculosis are in the far advanced stage of disease.

The purpose of the study has been to determine, if possible, the reason or reasons for this high percentage of far advanced cases, and to learn if there might not be certain corrective measures which could be applied.

At first it was felt that several factors would no doubt enter into the production of this state of affairs in the sanatorium population.

It was thought that the time interval between diagnosis and hospitalization might be important. This interval might be prolonged by the desire of the physician or the patient to carry out a program of treatment in the home or elsewhere outside a sanatorium. It might be prolonged in certain classes by the scarcity of beds for tuberculous patients.

It is not within the scope of this paper to discuss the merits of sanatorium versus home treatment, and in any event it will be shown that the lapse of time from diagnosis to hospitalization is not nearly so important, or as a rule so long, as the time from the onset of disease to diagnosis.

The series of cases from which the material for this paper was derived is composed of one hundred white female patients with an average age of 26.6 years at the time of admission, all of whom are new resident patients at Stony Wold Sanatorium. The desired group of one hundred patients was obtained by reviewing the case records alphabetically with no attempt at selection. The youngest of the group was fifteen years of age at the time of admission, and the oldest fifty-four, but there were only three patients in the group above the age of thirty-eight.

The first computation concerned the actual number and percentage of the three classifications in the series at the time of admission. It was found that 53 per cent were far advanced, 43 per cent moderately advanced, and 4 per cent minimal. It is impossible to say at this time how the classification of the patients in this series would compare with groups of equal size selected in a like manner from other sanatoria; however, there is reason to believe that our number of far advanced cases is lower than that of other sanatoria where no attempt is made to limit admissions to early cases. Stony Wold is a non-profit making, privately-owned sanatorium founded by a group of philanthropic persons. It is maintained to a large extent through the same channels, and by interested corporations with responsibility in the care of employees who develop tuberculosis. Charges per patient for sanatorium care have always been made, but a limited number of free beds are maintained through the philanthropy of interested groups. It was the original purpose of the sanatorium to accept only early cases offering a favorable prognosis. In 1929 a hospital unit was added, and since that time cases in all stages of pulmonary tuberculosis have been admitted.

The above is to give the reader an idea of the economic level from which this group of patients was derived. For the most part the patients can be placed in the middle class of society.

In a study of this kind we might arbitrarily divide the patients with early tuberculosis into three classes:

I. Those without symptoms and who therefore do not receive the benefit of an early diagnosis.

II. Those with symptoms but who do not think their illness of sufficient importance to consult a physician, and who therefore do not receive an early diagnosis. One of the patients recently admitted to the sanatorium (not in this series) had cough, expectoration, fatigue, frequent head colds and weight loss over a period of one year. Her father had died of tuberculosis. The patient did not think she was sick enough to consult a physician.

III. Those patients with symptoms who do consult a physician, but only half of whom, for the reasons suggested here, are given an early diagnosis. It is this last group with whom we are concerned in this study, and for whom the medical profession has a clear and definite responsibility.

We next concern ourselves with the relative importance of the various early symptoms of which these patients complained when they first presented themselves to a physician. As has been stressed by Myers,[1] the symptoms of pulmonary tuberculosis are usually late manifestations. With this in mind, it seems that when suggestive symptoms do make their appearance, the examiner should at least think of the possibility of tuberculosis.

The symptoms will be briefly discussed in the order of their frequency of occurrence in this series.

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COUGH: Cough is the most prevalent single symptom, and in 25 per cent of these patients it was the initial symptom. It was present in 77 per cent of the cases before a physician was consulted. This single deduction might very easily become a double-edged danger. We can expect the majority of our patients to complain of cough, and certainly every unexplained cough of more than two weeks duration should be investigated, but in attributing to cough its position of first im-

From the Stony Wold Sanatorium, Lake Kushaqua, New York.

portance in the array of symptoms it is essential not to lose sight of the remaining 23 per cent who at no time in the early course of their disease complained of cough.

Of the 77 cases with cough, all of whom had tuberculosis, only 42 per cent were given the benefit of a diagnosis by the physician first consulted. The undiagnosed patients were treated for their cough with little or no attempt to determine the causative factor.

EXPECTORATION: The symptom of second importance in frequency of occurrence is expectoration. While only one patient complained of expectoration as an initial symptom, 46 per cent were expectorating to some degree before consulting a physician. In each of these cases, cough was also present at the time of the examination.

The patients who complained of both cough and expectoration fared slightly better in obtaining a diagnosis from their original physician. In this group 56 per cent were diagnosed properly.

FATIGUE: The symptom of next importance is fatigue, which was present in 42 per cent of the patients in this series, and was the initial symptom in 23 per cent. In this group 57 per cent were given a diagnosis by their first physician. The frequency with which patients with fatigue are told to take more exercise is surprising.

WEIGHT LOSS: Weight loss was present in 41 per cent of the patients in the series. This was the initial symptom or observation in only three cases. The amount of loss of weight varied from three to forty-seven pounds over periods of from one to six months. It was found that 61 per cent of this group fell into the diagnosed column.

PLEURISY: The patients with chest pain were divided into those with and those without fluid. A total of 46 per cent of the patients complained of pain at some time before consulting a physician, and apparently six of these had effusions. Only 37.5 per cent of the patients with dry pleurisy were diagnosed during the period when they were under the care of the family doctor. Only one of the patients with effusion was passed by the first physician.

HEAD COLDS: I have included head colds in this list of symptoms because of the frequency with which they occur at the onset of symtomatic activity. The occurrence of head colds as the initial symptom was given by 21 per cent of all the cases, and 29 per cent stated that they had "colds" before consulting a physician. The regularity with which the nose and throat specialist and the general practitioner miss the diagnosis in the tuberculous patient with a "cold" is appalling. Of the group who had colds, 59 per cent were either passed as non-tuberculous or else tuberculosis was not considered.

HEMOPTYSIS: A hemoptysis of some degree was present in 21 per cent of the patients before consulting a physician. Of these patients, 71 per cent received a diagnosis. The amount of blood varied from streaking to a hemoptysis of eight ounces. Five of the patients had a hemoptysis as an initial symptom. Such diagnoses as a ruptured throat vessel or vicarious menstruation were made in the "missed cases" with this symptom.

NIGHT SWEATS: Night sweats as an early symptom was present in 15 per cent of the patients; however, only one of these reported night sweats as an initial symptom. Only five of these, or 33 1/3 per cent, were diagnosed correctly.

SYMPTOMS REFERABLE TO THE GASTRO-INTESTINAL SYSTEM: Of the patients in this series 12 per cent complained of gastro-intestinal disturbances, usually digestive in nature. The most frequent of this class of complaints were nausea and a feeling of heaviness. It is worth while to note here that a much higher percentage of our patients complain of suggestive gastro-intestinal symptoms some time during the course of their illness.

HOARSENESS: Hoarseness was an early symptom in 10 per cent of the patients, but was the initial symptom in only one of these.

DYSPNEA: Dyspnea was present in only four patients, and was never an initial symptom.

It was not intended that the subject of the relation of fever to active pulmonary tuberculosis should be discussed in this article, but it has recently been called to my attention by Watson[2] that the experience of this sanatorium is not in conformity with the opinions of other writers. Fishberg[3] has stressed his opinion that the absence of fever excludes active disease and blames the afebrile cases on faulty technique in taking the temperature. There has not been an adequate study of this subject at Stony Wold Sanatorium, but our present information is sufficient to permit the statement that we can not subscribe to this attitude. Certainly a large percentage of our patients with demonstrably active tuberculosis run an afebrile course.

A few of the case histories illustrative of the most common diagnostic errors will be given briefly.

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CASE I: White female. Age 21. Single. Onset with progressive fatigue one year before consulting a physician. During the year developed a moderate amount of cough with expectoration of two to six drachms in morning. Had night sweats during the last six months of the one year period. Reported blood-streaked sputum to the physician at the time of the first visit.

In the presence of the above evidence, the patient was told that she did not have tuberculosis and that the blood came from her throat. The symptoms persisted and the patient's sister insisted that an x-ray be taken because of the cough. The patient was admitted to Stony Wold nine days after this x-ray, with moderately advanced disease.

CASE II: White female. Age 20. Single. During the four months period before consulting a physician, the patient had had persistent head colds with cough and expectoration. She had a pleurisy with effusion, and had lost fourteen pounds. She also complained of hoarseness and gastro-intestinal symptoms of nausea and pain.

She was treated for her cough, and when she did not respond to the therapy of the family doctor she was taken by her mother to a different physician. An x-ray was advised, but for some reason the mother took the girl back to the family doctor, who in the presence of the symptoms enumerated above told her that an x-ray would be a waste of money. However, after the symptoms had persisted and progressed for two months longer, a total of six months, he finally consented to an x-ray and the expected diagnosis was made.

CASE III: White female. Age 20. Single. The patient complained of fatigue and severe chest pain of three months' duration, and had lived in the same home with a

brother who had died from tuberculosis five years previously.

She had a physical examination of the chest when she first consulted a physician, and on several subsequent occasions. She was repeatedly told that she was perfectly well and needed exercise. On the advice of her physician the patient began walking one way to work, a distance of five and a half miles. Four months later she began to cough, and in another month she was raising sputum and having night sweats. After a period of six months, that is, nine months from the onset of symptoms, the patient finally consulted another physician, who made the diagnosis of pulmonary tuberculosis, and after one month's rest at home she was admitted to Stony Wold. At the time of her admission she had far advanced disease involving the entire right lung with a 5 cm. cavity in the apex, and scattered infiltrations throughout the left lung.

CASE IV: White female. Age 36. Married. No children. Complained of cough, expectoration, hoarseness and dysphonia, all of which had been present for approximately a year, and the cough had been present for three years. She also had a definite history of exposure.

This patient was seen in consultation by a very well known and capable phthisiotherapist, which would lead one to believe that she probably did present a diagnostic problem at that time in spite of the suspicious symptoms and history of recent exposure. However, the fact remains that eighteen months later, when another x-ray was taken, she had a far advanced exudative lesion of the entire left side. She was finally admitted to the sanatorium for a thoracoplasty. This case is reported to give emphasis to the need for check-up examinations and x-rays in questionable cases.

CASE V: White female. Age 30. Single. Complained of cough, expectoration and loss of weight. Duration one year at the time of the first examination. The patient's mother died from pulmonary tuberculosis, and lived at home for many months before the diagnosis was made. After this exposure the patient lived with her sister, who had been treated for pulmonary tuberculosis eighteen months previously.

It seems incredible that in a patient with the above symptoms and history, tuberculosis was not considered, and the patient given the benefit of an x-ray. The diagnosis was bronchitis. She was not admitted to the sanatorium until two years later, at which time she had far advanced disease with a 2.5 cm. cavity.

CASE VI: White female. Age 30. Single. The patient complained of cough, expectoration, weight loss, dry pleurisy and hemoptysis of over a drachm. She had lived for three months with her sister, who died from pulmonary tuberculosis eight months previous to the onset of the patient's illness.

She was told that she had a "touch of pleurisy." Four months later she had a positive sputum, and far advanced disease.

CASE VII: White female. Age 31. Single. Onset with a head cold and fatigue one year before diagnosis. During the interim developed cough and expectoration, and lost eight pounds. The patient had a positive history of familial exposure over a period of eight years.

She was told that she had a "touch of bronchitis." Seven weeks following this diagnosis she was admitted to Stony Wold with moderately advanced disease.

CASE VIII: White female. Age 22. Single. The patient complained of cough, fatigue, weight loss and night sweats over a period of eight months. She was treated for the cough. Fatigue became so marked that she finally had to give up work of her own accord.

She was admitted to the sanatorium six weeks after quitting work, at which time she had outstanding physical signs, and far advanced disease with bilateral cavitation.

CASE IX: White female. Age 23. Single. Complained of cough, marked fatigue, dry pleurisy and frequent head colds for a period of two years.

The patient was examined at frequent intervals during this period of time, and was always told that her pain was muscular and otherwise there was nothing wrong with her. During at least a part of this time she had outstanding physical signs and when the first x-ray was taken by another physician one month before her admission to the sanatorium she had far advanced disease with cavity.

CASE X: White female. Age 29. Married. No children. Complained of persistent cough, heavy expectoration, marked fatigue, loss of weight, dry pleurisy and night sweats of three months' duration at the time she first consulted a physician. She was treated for bronchitis without an x-ray. During the course of her treatment she had two hemoptyses. Five weeks later an x-ray was taken and the proper diagnosis made, but even then the patient was given no advice whatever. Her husband, on the advice of friends, finally made arrangements for her admission to a sanatorium.

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In considering the time interval between the probable onset of disease and the institution of some form of treatment, it was thought that something might be learned by computing the interval from the recognition of the first symptom to the establishment of a program of treatment.

Average time from onset of symptoms to diagnosis in entire series 265 days.

Average time from onset of symptoms to diagnosis in group who were not diagnosed by their original physician 342 days.

Average time from the onset of symptoms to diagnosis in group who were diagnosed by their original physician 189 days. Here we have a difference of 153 days. There is no need to comment on what five months of continued daily activity may do to a patient with active tuberculosis.

Average time from diagnosis to admission to this sanatorium 321 days. In the entire series 20 per cent were admitted to the sanatorium from one to twelve years following diagnosis. Of this group of twenty, 75 per cent were in the far advanced stage, and 25 per cent were moderately advanced. The patients in this group had been treated at home or elsewhere. Thus 80 per cent of the series began their first definite program of treatment in this sanatorium, and if we consider this group alone hospitalization was not started for an average of 100 days following diagnosis. The shortest interval was 5 days, and the longest 244 days.

A practice which the writer feels can be justly criticised is the hesitancy on the part of many physicians in the face of conclusive evidence to tell the patient that he or she has tuberculosis. Frequently a patient in the far advanced stage of tuberculosis will give a history of a diagnosis of "a shadow on the x-ray" or "a little trouble" or "a spot on the lung" or "a little congestion," and in the majority of these cases no attempt has been made to establish a definite regimen for the patient for fear that he or she will learn the diagnosis. The writer feels that a policy of frankness is essential in carrying out a program of treatment for a patient with pulmonary tuberculosis. Diagnoses such as the above mean little or nothing to the patient, and if the symptoms subside the previous routine is continued; if they do not, the patient usually consults another physician.

When we recall that a patient in the far advanced stage of disease may have no symptoms or may complain of a single symptom over a period of years, it becomes increasingly important to recognize the early symptoms of tuberculosis as such. As has been pointed out by Egbert[4], we are not, in spite of recent teachings, sufficiently affecting the incidence of this disease.

It is common practice for the tuberculosis patient to be treated for a cough, hoarseness, fre-

quent chest colds, or for any of the suggestive symptoms without consideration being given to the underlying cause. Frequently we obtain the history that a friend or relative first suggested the diagnosis to the physician, or insisted that the patient go elsewhere for an examination. The criticism is often heard that the average physician is not "tuberculosis minded," meaning, I presume, that he all too infrequently thinks of the possibility of tuberculosis. This study has revealed that approximately as many cases are missed by the physicians who do include tuberculosis in their differential diagnosis, as by those men who do not consider tuberculosis. This finding was somewhat unexpected, and in this small series I am inclined not to attach too much importance to it. I still feel that the physician who makes no effort to rule out tuberculosis is the most culpable. Quoting Lawrason Brown, "The most important factor in diagnosis in the majority of cases of pulmonary tuberculosis is keeping the disease in mind."

There is agreement that the responsibility of those men who have to do with the care of tuberculosis patients does not end with the patient as an individual. This point is emphasized for us by the story given by patient number IX above. This girl with the symptoms enumerated continued to work for two years, during which time she was a constant source of danger to her unsuspecting associates, as well as to herself. Most of the patients in this particular series are office workers, some are schoolteachers, and some nursemaids. One schoolteacher taught in a grade school for three years after the onset of symptoms of cough, expectoration and pleurisy. During the last two years of this time she was being treated for the above symptoms, and during at least a part of this time she was known to have active tuberculosis with cavity and positive sputum. The community justly looks to the family physician for the medical advice in correction of conditions of this nature.

Woodruff[5] has pointed out the desirability of x-raying contacts as early as possible after diagnosis has been made and repetition of x-rays at intervals for a year or two on these same contacts. His feeling is that the majority of minimal cases of tuberculosis can only be picked up in painstaking work of this kind. Such a program would serve a useful purpose in two directions: first in locating the source of the infection and second in locating those individuals to whom the infection has been disseminated from the present host. Efforts of this nature in the light of our present knowledge certainly offer the greatest hope for control of this disease.

Another problem which is a very acute one in the early diagnosis of pulmonary tuberculosis is "Who shall interpret the x-ray?" This problem as it concerns the rural and the indigent or semi-indigent patient has been recently discussed by Simons and Simons[6]. It is felt that the opinion in order to be of value should be that of a man specially trained in the x-ray diagnosis of tuberculosis. To give emphasis to this view, the following case in point is selected from the group of our patients who were x-rayed when they first went to the physician, but in whom the proper diagnosis was not made.

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CASE XI: White female. Age 38. Widow. Mother of two children. Occupation, telephone operator.

Onset in the spring of 1929 with a severe chest cold, and pain in the right anterior chest. Also marked fatigue. X-rays were taken, and the patient was told that she had bronchial trouble. The pleurisy has been present almost constantly since the onset, and she was frequently told that this was muscular in origin. The fatigue has been present in some degree since the onset. She has had frequent chest colds during the five year period.

During the period of over five years the patient was frequently examined and x-rayed, and was told each time that she did not have pulmonary tuberculosis. The last such examination was in August, 1934. She was admitted to the sanatorium August 30, 1934, and an x-ray taken at that time showed parenchymatous disease in the right lung from the second rib and fifth vertebral spine to the apex, and in the left lung from the third rib and seventh vertebral spine to the apex with two 1 cm. cavities.

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It has been suggested that the most satisfactory means of detecting early cases of pulmonary tuberculosis is through routine examination of groups of individuals at the expense of society, or by private physicians. This would seem to be a worth while program, but it is not without its danger. Such examinations are likely to be hasty and of little value, as evidenced by the fact that all too frequently persons who have submitted to examinations of this type will be admitted to a sanatorium six or eight months later with moderately advanced or even far advanced disease, and the story that they minimized the importance of early symptoms because of the recent routine examination after which they were told that they were perfectly well.

SUMMARY

A group of one hundred white adult female patients with pulmonary tuberculosis is studied for early symptomatology, in an effort to learn why such a large percentage of sanatorium cases are in the far advanced stage of disease.

The percentages in the three classifications in this group at the time of admission to the sanatorium were 53 per cent far advanced, 43 per cent moderately advanced, and 4 per cent minimal.

Patients with early tuberculosis are divided into three classes:

I. Those without symptoms.

II. Those with symptoms but who do not consult a physician.

III. Those with symptoms who do consult a physician.

Fifty per cent of the patients in the series were not given the benefit of a diagnosis by the physician who first treated them.

The average time from the onset of symptoms to diagnosis for those patients in the group diagnosed by their original physician was 189 days, and in those not so diagnosed 342 days.

The average time from diagnosis to admission to this sanatorium 321 days. The average time from diagnosis to admission to this sanatorium in those patients not treated elsewhere 100 days.

(Concluded on page 179)

The Modern Management of Pulmonary Tuberculosis in the Adult

• Julius P. Dworetzky, M.D., F.A.C.P., Liberty, N. Y.

THE purpose of this paper is to emphasize the importance of the early diagnosis and to discuss in brief form the modern management of pulmonary tuberculosis in the adult.

This discussion is based on personal experience with this disease and its complications, both in sanatoria and private practice extending over a period of twenty-four years.

Diagnosis

Pulmonary tuberculosis is an infectious disease and ubiquitous in character. Its onset may be sudden or insidious, depending on the amount of infection, whether massive or slight, and the resistance of the host. The discovery of the disease may be made at the very onset or later in its various stages, depending on the zeal of the physician and also on the intelligence and cooperation of the patient. The diagnosis, and especially the early diagnosis, still constitutes a perplexing problem and is worthy of considerable discussion. The advantages of an early diagnosis are self-evident. It is of the utmost importance to discover the disease at its onset before destruction of tissues has taken place and the patient's resistance has become undermined through toxemia. Therapeutic measures and especially artificial pneumothorax are most effective when employed in the earliest stages of this disease before intrapleural adhesions have had a chance to form.

With all the modern methods at our disposal, almost 100 per cent of all cases of pulmonary tuberculosis presenting themselves at the doctor's office should be readily diagnosed. It is quite evident that advanced cases with classical symptoms are easily recognized. It is rather the early cases and those which do not present clearcut objective and subjective symptoms that are the object of this discussion.

Assume a hypothetical case of a patient who presents himself at the doctor's office complaining of one or more of the following symptoms: cough with or without expectoration, blood-streaked sputum, hoarseness, lassitude, loss of weight, anorexia, P.M. fever, night sweats, irritability, dyspnea, pleurisy pains, ischiorectal abscess or fistula. Any one of these symptoms should put the physician on guard immediately and should make him suspicious of pulmonary tuberculosis. There are, of course, other pathological conditions of the lungs which may produce some or all of the above symptoms and thus simulate pulmonary tuberculosis. These conditions can be eliminated by a differential diagnosis, which will be briefly discussed later.

A good history accompanied by a thorough physical examination will often yield sufficient evidence to make a diagnosis, but in cases where these means are not sufficient to justify a definite diagnosis, an x-ray of the chest will reveal any existing pulmonary pathology in almost 100 per cent of the cases. A sputum analysis should, of course, be made in every case to confirm the diagnosis. But once the sputum has become positive the lesion has likely reached a more or less advanced stage. When the sputum, however, is persistently negative on concentration, and all the other evidence points toward tuberculosis, a guinea pig inoculation should be made. In cases of young adults, who do not expectorate easily, and likely swallow their sputum, a gastric lavage and examination of the contents for bacilli will often be found helpful (1).

To summarize: Any patient complaining of one or more of the above enumerated symptoms should be regarded with suspicion as to pulmonary tuberculosis. Obtain a good history, do a complete physical examination, take an x-ray film and follow it up with a sputum analysis and, in some cases, with a search for bacilli in the gastric contents, and no case of pulmonary tuberculosis should ever escape detection.

Differential Diagnosis

The differential diagnosis consists of eliminating all the non-tuberculous infections of the lungs and other pathological conditions whch we encounter every now and then. It is not within the scope of this paper to go into all the details of the various pulmonary diseases. For this the reader is referred to any modern textbook on the subject. The following are the most common pathological conditions met with in the usual practice: bronchiectasis, lung abscess, atelectasis, malignancies, influenza, mycosis, pneumonoconiosis, pneumonia, asthma, bronchitis and syphilis. All the above pulmonary conditions should be kept in mind when making a differential diagnosis.

Prognosis

The diagnosis having been made, the family or the patient will likely ask for a prognosis. Usually a prognosis is based on the following factors: extent of lesion, severity of symptoms, type of lesion, general condition of patient, early diagnosis, financial status of the patient, the presence or absence of tuberculous complications and intercurrent diseases. In my opinion the prognosis depends mainly on the character and the promptness with which treatment is instituted and all the above factors are of secondary consideration. In fact, a definite prognosis should not be given until specified treatment is instituted and the influence of treatment on the course of the disease has been observed for some time. Generally speaking, cases receiving collapse therapy offer a much better prognosis than similar ones where this form of treatment is not (or cannot be) employed. Each case, however, must

be individualized and carefully examined on its own merits.

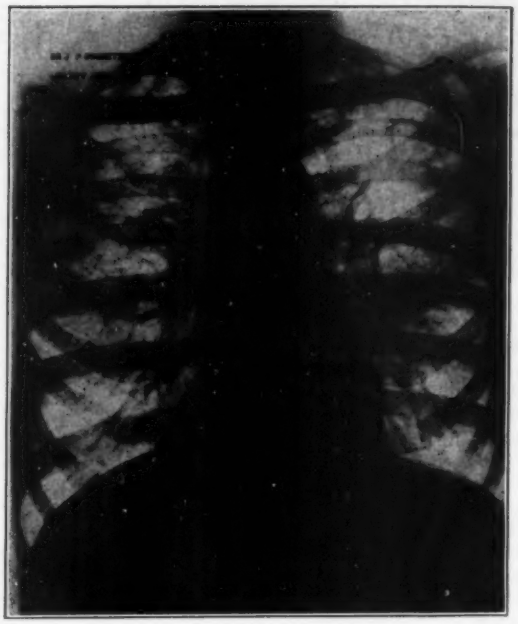
Treatment

Once the disease is properly diagnosed, the problem of the management of pulmonary tuberculosis should be simple, as the management of this disease is now well standardized, compared with that of two decades ago. At that time the treatment of pulmonary tuberculosis was almost entirely medical and we depended chiefly on natural healing through rest, fresh air, proper diet and improved hygiene. At the present time the treatment of pulmonary tuberculosis is approximately 50 per cent medical and 50 per cent surgical; that is, if artificial pneumothorax is considered as a surgical procedure. The prognosis in pulmonary tuberculosis is so much better where collapse therapy is employed that in considering treatment one should always think of collapse therapy first, and only those cases where the lesion is small or where the lesion is so widely distributed as to make collapse therapy inadvisable should be treated medically.

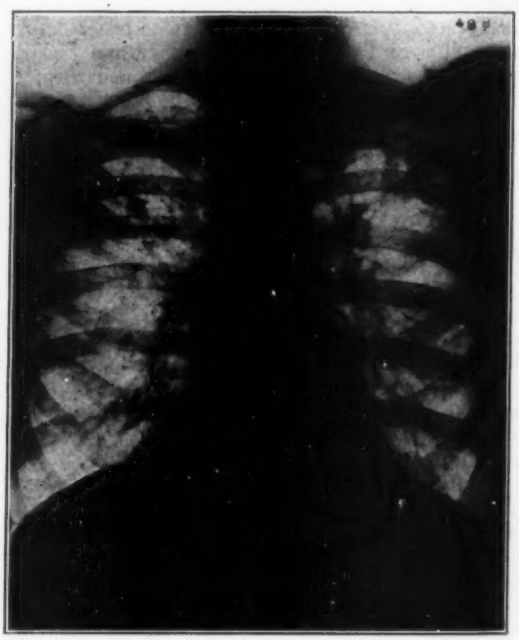
Once a diagnosis of pulmonary tuberculosis has been made, a very important step confronts the physician, namely, the correct treatment for the particular case under advisement. An experienced physician knows that no two patients are alike. Reactions depending upon temperament and physical make-up differ in almost every patient. Each patient, therefore, must be individualized. What can be told in detail to one must be withheld from another. One patient may go obediently to a sanatorium, another may head for the river on being told the truth in detail. However, the truth should be tactfully told in order to secure the full cooperation of the patient; then clear, concise and very definite directions should be given.

Rest and Environment

It has been the accepted opinion of physicians treating tuberculosis that the basis of all treatment is rest. Whether this rest can be secured best at home or away from home will depend on several factors. First, home conditions—are they suitable for the proper care of the patient? Can isolation be secured? Are there small children or young adolescents in the household? Is nursing care available? Where would the nervous tension on the patient be less? When these questions have all been satisfactorily settled, the patient may be treated at home under the guidance of a man skilled in the treatment of tuberculosis. Home treatment can now be endorsed and especially so since artificial pneumothorax has been so commonly employed. My personal experience, however, has been that patients almost invariably benefit from a climatic change. It is the rare case that does not benefit from a change of climate. Remove the patient from the well meant, but often detrimental, fussing of the home to the calmer, more disinterested atmosphere of the well conducted nursing home or sanatorium where a regimen of well selected food, established rest hours and competent care is initiated and your patient will begin acquiring strength, hope and calmer nerves. However, whether the patient remains at home or goes away, the treatment of the disease should be carried on along the same lines.



Case 1. *Fig. 1*—F. M.—Diffuse infiltration of right upper lobe extending into middle. Diffuse infiltration left upper lobe with cavitation in parenchyma, 3 cm. x 2, behind second rib.

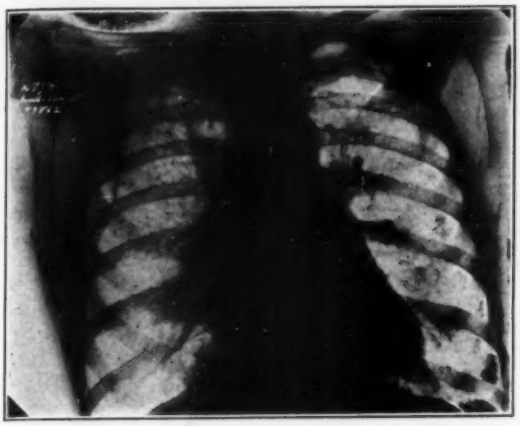


Same Case. *Fig. 2*—Showing cavity left upper lobe entirely healed and lesion in right lung much improved. Sputum negative since June 7, 1934, after 3 years and 8 months.

Should the patient be advised to go away, he should be sent to a definite place and to a competent physician in whom the attending doctor has the utmost confidence. Many patients vaguely told to

go to the country are losing valuable time and often their lives.

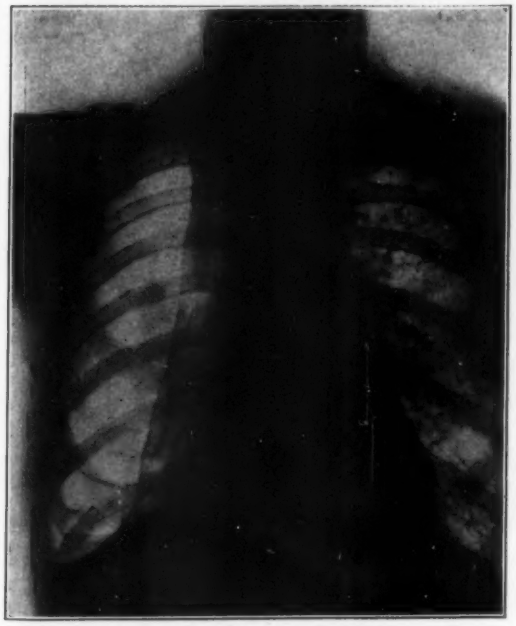
Frequently patients hesitate to leave their homes



CASE 2. *Fig. 3*—F. J. D. Shows a cavity size 5 cm. x 3.5 at right upper lobe with bronchogenic spread into right lower. Sputum positive.

because they fear it may mean a permanent separation from the family and also because of the heavy financial burden entailed. However, under the present methods of treatment, just the reverse is true. A few months of climatic change, plus suitable treatment, will usually render the patient atoxic, ambulant and negative as to the sputum, thus enabling him to return to his home where the necessary treatments may be continued.

To return to the basis of all treatment—rest

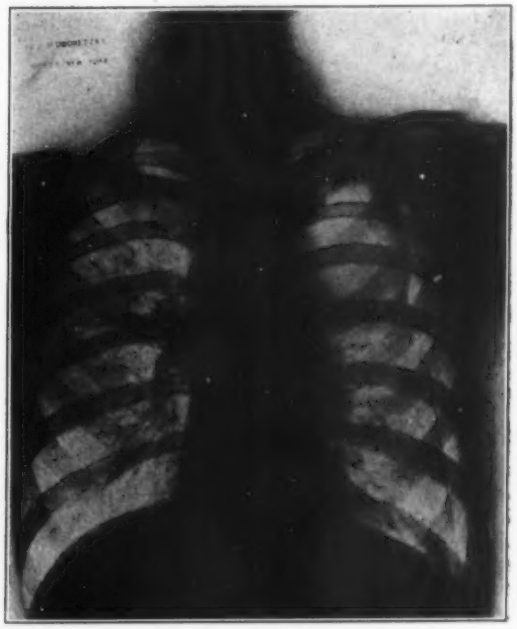


SAME CASE. *Fig. 4*—F. J. D.—Right lung well compressed, about 75%. Cavity at right upper lobe completely obliterated. Effusion entirely absorbed, leaving a few strands of adhesions, right base. Sputum is negative.

—this point cannot be too heavily stressed. Every case of tuberculosis presenting symptoms, and especially toxic symptoms, should be considered as an active case and absolute bed rest is indicated. A good rule for the physician's guidance is that as soon as a diagnosis is made the patient should be put to bed for a period of observation. During this period a decision can be reached as to the course of treatment to be followed: whether the case calls for some form of collapse therapy or whether rest plus hygienic measures will suffice. Where collapse therapy is found unsuitable or cannot be employed, bed rest alone must be resorted to. It must always be understood, however, that collapse therapy is but an adjunct to bed rest.

COLLAPSE THERAPY

The most accepted forms of collapse therapy are artificial pneumothorax, operations on the phrenic nerve, pneumolysis (cauterization of adhesions) and extrapleural thoracoplasty.

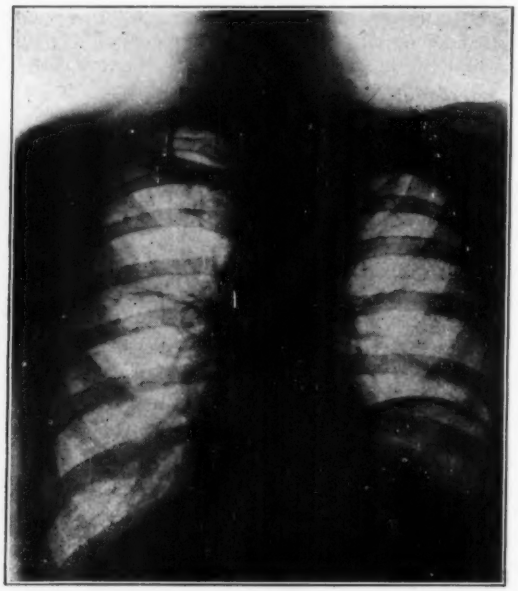


CASE 3. *Fig. 5*—H. B. Giant cavity, 9.5 cm. x 7 cm., extending from upper border of first rib to lower border of third on left side. Also extensive infiltration of right upper. Sputum positive.

CASES SUITABLE FOR COLLAPSE THERAPY

In considering indications for collapse therapy the outstanding one is the presence of cavitations with positive sputum. As long as a cavity exists a pulmonary lesion can never be considered healed, and there is no way of healing a cavity except by closing it. It is true that sometimes a cavity will close spontaneously with bed rest alone (Case 1), and especially when it is small and of recent origin, but when the cavity does not show a tendency to healing, collapse therapy is indicated (Cases 2, 3, 4, 5, 6 and 7). When symptoms of toxemia are present the advisability of collapse therapy becomes

more urgent. Repeated hemoptysis calls for collapse therapy and it should be instituted at once, and especially when it can be definitely ascertained which lung is the source of the bleeding. When tuberculous complications such as tuberculosis of the larynx or intestinal tuberculosis exist, the indications are still stronger. Collapse therapy, of course, is most desirable when the contralateral lung is clear (Case 5); however, even if the contralateral lung is affected to a very considerable extent, an



SAME CASE. *Fig. 6*—H. B. Eleven months following phrenicectomy. Rise of diaphragm 10 cm. Cavity obliterated. Right upper much clearer. Sputum negative.

attempt should be made to treat the more affected or active lung. It will then often be observed that the lesion in the contralateral lung will improve (Case 3). In cases where the lesion in the opposite lung does not improve and possibly progresses, the proper form of collapse therapy may be tried on the other side (Case 6). Of all the forms of collapse therapy, pneumothorax is the procedure of choice (Case 2), but should it prove ineffective, and the cavity remain uncollapsed, it may be augmented by the crushing of the phrenic nerve or a phrenicectomy (Case 3). Sometimes an intrapleural pneumolysis (cauterization of adhesions) will loosen the lung from the parietal pleura and allow the collapse of a cavity (Case 5). When the above procedures have failed to bring about a closure of the cavity, extrapleural thoracoplasty will usually bring about the desired result (Case 7). We must always remember that the cavity must be closed before the patient may be declared cured.

CASES UNSUITABLE FOR COLLAPSE THERAPY

The following types of cases are usually considered unsuitable for collapse therapy:

1. Far advanced cases of long standing, where both lungs are extensively involved and where it is reasonably certain that an effective pneumothorax could not be induced. These cases, on the whole, will do better with bed rest and supportive measures.

2. Cases which are more or less moribund, as evidenced by extreme debility and asthenia, and in which the pulmonary lesion is well disseminated through both lungs.

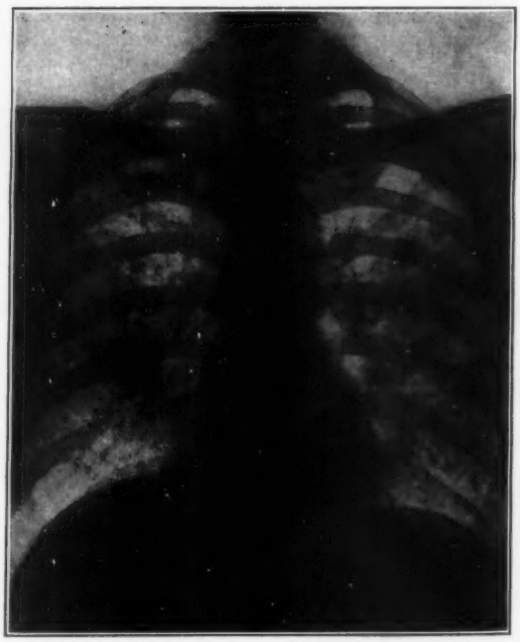
3. Cases complicated by tuberculous meningitis.

CASES SUITABLE FOR BED REST ALONE

There is no hard and fast rule by which cases may be selected for bed rest treatment. Generally speaking, bed rest alone is indicated in those cases where the lesion is small, of the exudative type, and especially when the sputum is negative; also in those which present small and recent cavitations. Such cases are entitled to a period of observation and in many of these cases a few months in bed will clear up the lesion.

GRADUATED EXERCISE

Although the healing of a pulmonary lesion is accomplished mainly through rest, both local and general, each patient during the latter part of the treatment should be allowed graduated exercise, which is best taken in the form of walking. Exercise should be begun when all toxic symptoms have disappeared, when the x-ray film demonstrates that the lesion is beginning to undergo fibrosis and calcification, and when the sputum is preferably negative. The exercises should be graduated according to the patient's condition and, personally, I find it



CASE 4. *Fig. 7*—M. F. Large cavity, 5 cm. x 3, right upper lobe. Scattered areas of infiltration and calcification left lung, complicated by laryngeal tuberculosis. Sputum positive.

convenient to grade the exercises in nine activities as employed at the Otisville Sanatorium, Otisville, N. Y.:

Activity O—Absolute bed rest.
Activity I—Patients on bed rest with bathroom privilege.

SAME CASE. *Fig. 8*—M. F. Four months following phrenic crush. Right diaphragm raised 8 cm. Cavity obliterated. Sputum negative. Larynx much improved.

Activity II—Patients on moderate bed rest with bathroom privilege; allowed to sit up two hours in the morning on a cure porch and have the noon meal in the dining room.

Activity III—Patients may sit up on the cure porch for three hours in the morning and have all three meals in the dining room.

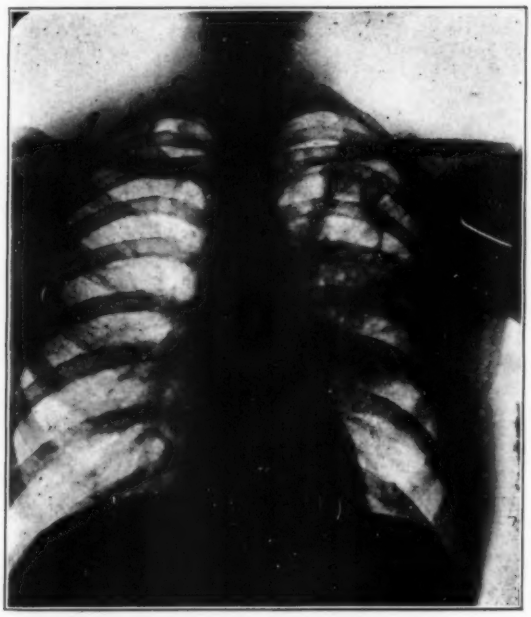
Activity IV—Patients may have all the privileges of activity III. These may attend church or movies or both, once a week. Walking exercise fifteen minutes twice a day.

Activity V—All privileges of activity IV. Walking exercise from fifteen to thirty minutes twice a day.

Activity VI—All privileges of activity IV. Walking exercise from thirty to sixty minutes twice a day. May play cards one hour in the evening.

Activity VII—All privileges of activity VI. Walking exercise for one and one half hours twice a day.

Activity VIII—All privileges of activity VI. Walking exercise for two hours twice a day.



CASE 5. *Fig. 9*—J. C. H. Large cavity, 5 cm. x 4, left upper. Contralateral lung clear. Sputum positive.

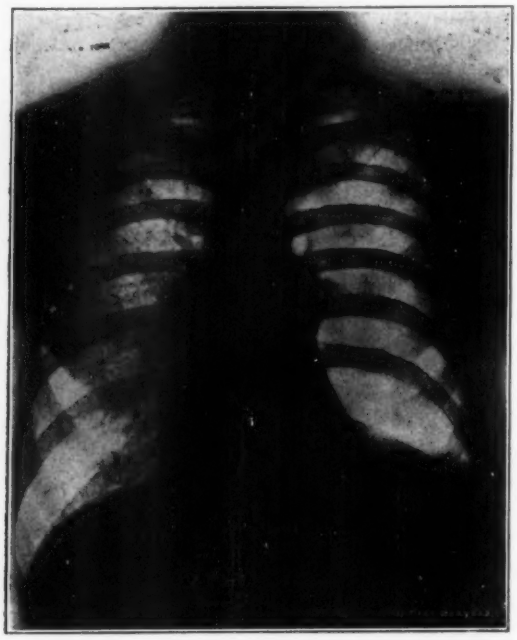
SAME CASE. *Fig. 10*—Pneumothorax and phrenicectomy reduced size of cavity but failed to obliterate it because of several strands of adhesions. Sputum continued positive.

WHEN A PATIENT MAY BE CONSIDERED WELL AND ABLE TO RETURN TO WORK

When a patient has reached activity VIII and is able to carry on without loss of weight or return of any symptoms, he may be allowed to return to his usual work, provided it is not too laborious. Here, too, each case must be individualized and judged on its own merits. Some cases heal faster than others, some heal in a few months (resolution), others may take five years and still others never heal at all. I find that in my practice the following signs and symptoms serve as a practical

guide in determining when a patient is well and able to return to work:

1. Patient must be free from all toxic symptoms.
2. He must be rid of cough.
3. Expectoration must be *nil* or very slight.



SAME CASE. *Fig. 11*—34 days following pneumolysis. Cavity entirely obliterated. Sputum negative.

4. Sputum must be negative on concentration for at least one year.
5. In infiltrative lesions x-ray film must show resolution, retrogression, fibrosis or calcification.
6. If a cavity existed, it must be closed or obliterated as shown on x-ray film.
7. The general condition must be satisfactory.

SUMMARY

1. An early diagnosis is of the utmost importance. With the aid of the x-ray and laboratory the diagnosis of pulmonary tuberculosis should be made in almost 100 per cent of cases.

2. The treatment of pulmonary tuberculosis is at present approximately 50 per cent medical and 50 per cent surgical and with the institution of collapse therapy the prognosis in pulmonary tuberculosis has become tremendously improved.

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CASE 1 (Figures 1 and 2), F. M., illustrating the closing of a cavity through rest alone.

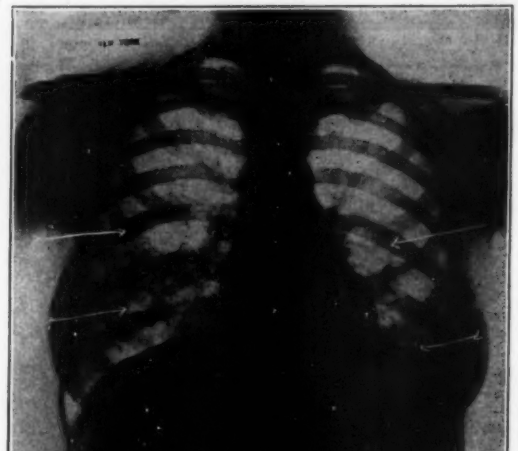
F. M., male, age 42, first came under my care September 5, 1930; pulmonary lesion—diffuse infiltration of right upper lobe extending into middle. Diffuse infiltration of the left upper lobe with definite cavitation in the parenchyma (3cm. x 2), behind the second rib (Fig. 1). Sputum was positive. Because of the extensive involvement of the right upper lobe, pneumothorax at that time was not deemed advisable and patient was treated with bed rest for a period of at least nine to twelve months. A film taken August 20, 1931, showed that the cavity was quite well healed. This was also confirmed by subsequent films. An x-ray taken November 12, 1935 (Fig. 2), showed that the cavity in the left upper lobe is entirely healed and lesion in right lung much improved. Sputum has been persistently negative since June 7, 1934.

DISCUSSION:

This case illustrates that sometimes cavities will heal through natural rest alone, but, when they do, the time required is usually much longer than in cases where artificial collapse is employed. In this case I feel that although a film taken August 20, 1931, nearly twelve months following the original film, showed that the cavity was quite well healed, the sputum was still positive. In my opinion complete closing of the cavity did not occur until three years later, when the sputum first became negative.

CASE 2 (Figures 3 and 4), F.J.D., illustrating the closing of a large apical cavity, 5 cm. x 3.5, at the right apex, by artificial pneumothorax during a period of nine months (April 10, 1935, to Feb. 17, 1936).

F.J.D., male, age 56, came to Liberty March 27, 1935, at which time he presented a moderately advanced lesion fairly well confined to the right lung with cavitation measuring 5 cm. x 3.5, at right upper lobe, also considerable bronchogenic spread extending to the right lower lobe (Fig. 3). Left lung showed a heavy hilus with calcified tubercles here and there. Sputum was positive. The patient was moderately toxic, temperature running from 99 to 100.8 F., weight 135 pounds. A pneumothorax was instituted April 10, 1935. Cavity was found to be very resistant to compression. During the month of September, 1935, patient developed a pleural effusion, which later was aspirated on two occasions. The pneumothorax was continued and a film taken Feb. 17, 1936 (Fig. 4), shows the right lung well compressed, about 75 per cent; cavity at the right upper lobe completely obliterated; effusion is entirely absorbed, leaving a few strands of adhesions;



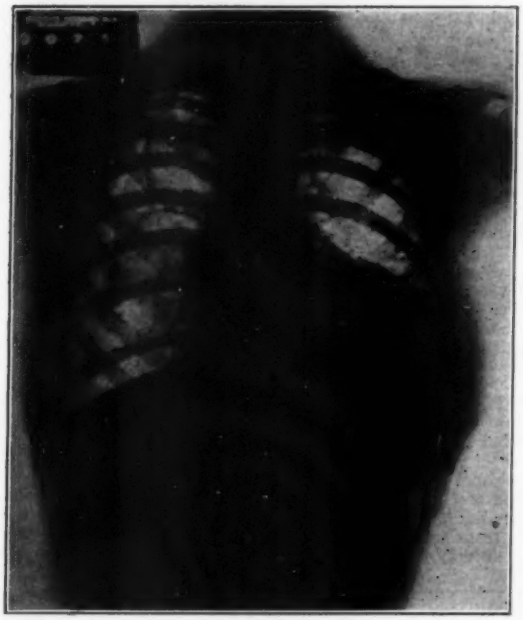
CASE 6. *Fig. 12*—J. S. Illustrating a case of bilateral far advanced tuberculosis with multiple cavitation both lungs. Sputum positive.

patient is free from cough and all other symptoms. The last sputum analysis, made Jan. 26th, was found negative. His present weight is 148 pounds, a gain of 13 pounds; general condition is excellent and patient is ready to return to the city and soon to resume work.

DISCUSSION:

This case illustrates the advantage of collapse therapy over a natural cure. Had this patient been left alone I feel confident that the cavity, because of its location and

the fibrotic wall, could never have healed by bed rest alone and the chances are the patient would have grown more toxic and after a time become unsuitable for collapse therapy. As it was, with artificial pneumothorax, we were completely successful in closing the cavity and thus rendered his sputum negative within ten months.



SAME CASE. *Fig. 13*—Pneumothorax right side; phrenicectomy left side with diaphragm rise of 7 cm. All cavities obliterated. Sputum negative.

CASE 3 (Figures 5 and 6), H. B., illustrates where a pneumothorax was of no avail and a phrenicectomy was apparently responsible for the closure of this unusually large cavity.

H. B., male, age 32, came under my care July 15, 1932, referred by Dr. Foster Murray. Initial examination revealed a fairly extensive infiltration in the right upper lobe while on the left side he had a large cavity extending from the upper border of the first rib to the lower border of the third, measuring 9.5cm. x 7cm. (Fig. 5). The patient weighed 126 pounds, was very toxic and the lesion appeared to be so extensive it did not seem that collapse therapy could accomplish the desired result. His condition, however, was gradually getting worse and for this reason, as a last resort, a pneumothorax was attempted on the left side. A partial pneumothorax was obtained with no effect whatsoever on the cavity. A phrenicectomy was then performed by Dr. Victor Bourke April 23, 1934, with an indifferent result except that the diaphragm became slightly elevated and immobilized. As time progressed, however, the diaphragm became more and more elevated and the cavity continued to reduce in size. A film taken eleven months after the phrenicectomy showed that the cavity was well obliterated (Fig. 6), while another film taken February 7, 1935, one year and eight months after the phrenicectomy, showed the cavity still obliterated. Sputum has been negative since December 17, 1934. Patient is entirely free from toxic symptoms and now weighs 152 pounds, a gain of 26 pounds. He still coughs and expectorates moderately but his general condition is tremendously improved.

DISCUSSION

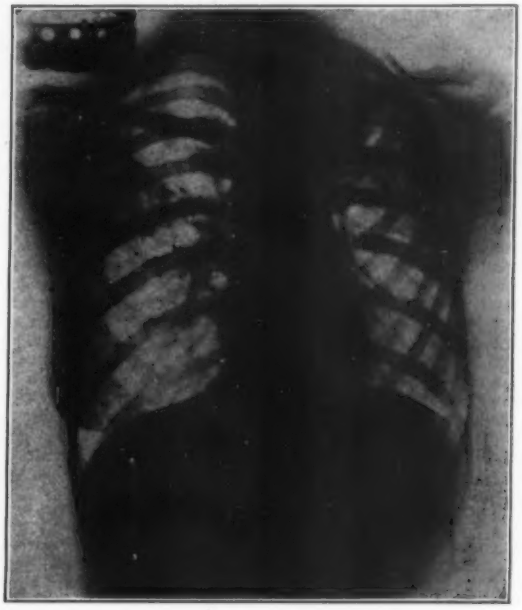
This case illustrates the fact that sometimes a truly hopeless case may be benefited through collapse therapy. An artificial pneumothorax did not accomplish much but a phrenicectomy undoubtedly was the sole means of closing the cavity. Also, please note the favorable effect on the contralateral lung.

CASE 4 (Figures 7 and 8), M. F., illustrating a large cavity at the right upper lobe, in which an unsuccessful attempt was made to induce a pneumothorax on the right side. Failure because of extensive adhesions. A phrenicectomy was apparently responsible for the closure of the cavity.

M. F., male, age 44, came under my care May 10, 1935. Initial examination revealed extensive advanced tuberculosis with a large cavity of 5 cm. x 3 at the right upper lobe with infiltration extending into the right lower. Scattered areas of infiltration and calcification throughout left lung (Fig. 7). Patient also had a complicating laryngeal tuberculosis, consisting of infiltration of both vocal cords and posterior commissure. He was running a low grade fever with a tendency to bleeding every now and then. His weight was 165 pounds. A pneumothorax was attempted on the right side, in order to close the cavity, September 30, 1935, but was unsuccessful on account of diffuse pleural adhesions. The right phrenic nerve was crushed on November 1, 1935, and the accessory phrenics removed, with splendid result. The diaphragm is well elevated— 8 cm., and immobilized; cavity at right upper apparently obliterated (Fig. 8); sputum, which was previously positive, is now negative, cough and expectoration have disappeared, temperature normal; now weighs 197 pounds, a gain of thirty-three pounds, and the larynx has cleared up to a remarkable extent—both vocal cords appear normal and only slight thickening of the mucous membrane remains at the posterior commissure.

DISCUSSION:

This case presents two interesting features: first, it supports an earlier contention of mine that an operation



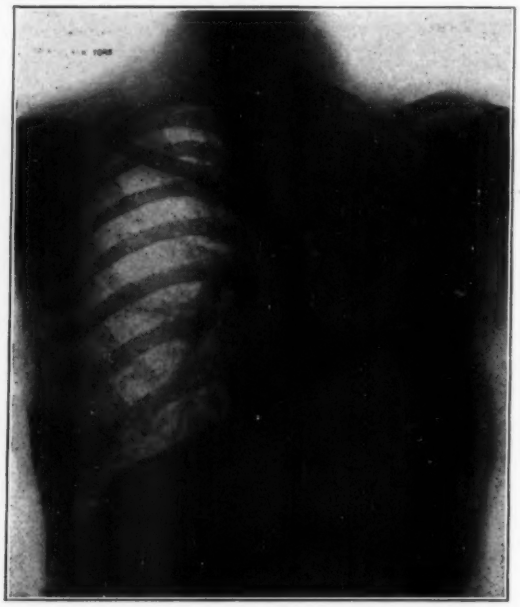
CASE 7. *Fig. 14*—H. McK. Illustrating a case of far advanced pulmonary tuberculosis with large cavity (3½ cm. x 3) left upper lobe.

on the phrenic nerve is indicated in all cases where artificial pneumothorax has been attempted and failed on account of pleural adhesions (2). It is true that a phrenicectomy does not always close cavities; however, in my experience, 50 per cent or more of cases operated on benefit as a result of the phrenic operation. Second: the marked improvement of the larynx, which undoubtedly was brought about by the improvement in the pulmonary lesion.

CASE 5 (Figures 9, 10 and 11), J.C.H., illustrating a

case of far advanced active tuberculosis with a large cavity at the left upper lobe. Pneumothorax and phrenicectomy failed to collapse the cavity. Pneumolysis brought about an immediate closure.

J.C.H., male, age 36, first came under my care December lesion with a large cavity, measuring 5cm. x 4, at the left



SAME CASE. *Fig. 15*—Showing complete atelectasis left lung. Note heart drawn to left.

upper lobe. Contralateral lung appeared clear (Fig. 9). Patient was very toxic, ran a high fever, from 102 to 103 F. in the afternoon, coughed and expectorated a great deal, and his weight was 129 pounds. He also suffered from a severe form of diabetes and insulin therapy was immediately instituted. Sputum was positive. Pneumothorax was induced January 11, 1934, which was supplemented by a phrenicectomy by Dr. Victor Bourke on April 23, 1934, for the purpose of compressing the cavity. We succeeded in reducing the cavity considerably but because of several strands of adhesions, between the second and third ribs, it persisted (Fig. 10). A pneumolysis was performed December 1, 1934, by Dr. Pol Coryllos of New York, with complete obliteration of the cavity (Fig. 11). Sputum became negative and the patient has been well ever since. When he left Liberty on September 20, 1935, he weighed 150 pounds, which was a gain of 21 pounds, and his general condition was excellent.

DISCUSSION:

The interesting features of this case are:

1. The patient had severe diabetes, which, because it was adequately controlled, did not in any way influence the treatment of his pulmonary lesion.
2. Pneumothorax and phrenicectomy did not bring about the collapse of the cavity.
3. Cauterization of adhesions, one year later, brought about the desired result.

CASE 6 (Figures 12 and 13), J.S., illustrating where a bilateral lesion with cavitations in both lower lobes was treated with a pneumothorax on the right side and a phrenicectomy on the left with excellent result.

J.S., female, age 17, came under my care June 17, 1933, referred by Dr. Vito Loscalzo, of Brooklyn; diagnosis advanced pulmonary tuberculosis with multiple cavity formation in both lower lobes (Fig. 12). Patient was very toxic, coughed and expectorated a great deal; temperature ranged from 102 to 103 F. in the afternoon and weight was 99 pounds. After eight weeks of observation it was found that the cavities were becoming larger and that the patient was getting worse. On August 23, 1933, a pneumothorax was induced on the right side with a splendid result. September 7, 1933, a phrenicectomy was performed on the left side by Dr. Victor Bourke, here again with excellent result (Fig. 13). All the cavities became obliterated; patient gained 20 pounds in weight, all symptoms of toxemia, including cough and expectoration, disappeared; sputum is now negative and general condition excellent.

DISCUSSION:

Here is a case where it is reasonable to assume that, if it had not been for the application of collapse therapy, the patient would have died long ago, as, during the eight weeks of observation, this patient became rapidly worse. The pneumothorax on the right side afforded the patient great relief. The toxemia, however, persisted and the phrenicectomy on the left side seemed to accomplish the desired result. A phrenicectomy on the contralateral side was preferred to a pneumothorax because I thought that if we could obliterate the cavities with one operation, it would be much better for the patient than to go on indefinitely with a bilateral pneumothorax.

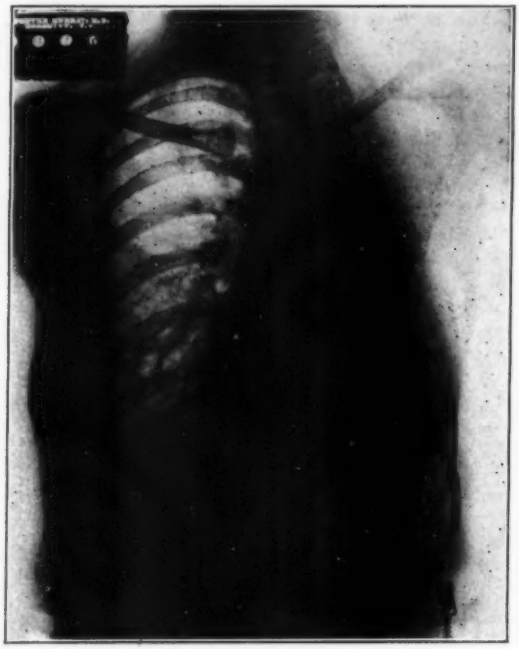
CASE 7 (Figures 14, 15 and 16), H. McK., illustrates a case of far advanced tuberculosis with a large cavity in the left upper lobe with spread via the bronchiole route to the mid-portion of the right lung. Pneumothorax was attempted unsuccessfully, and a phrenicectomy brought about only slight alleviation of symptoms. A thoracoplasty was performed with excellent result.

H. McK., female, age 32, a patient of Dr. Foster Murray, first came under my care August 1, 1932, presenting a far advanced lesion with a large cavity, 3.5cm. x 3, at the left upper lobe and a spread by way of the bronchioles to the mid-portion of the right lung (Fig. 14). With complete bed rest the cavity in the left upper lobe became somewhat smaller and the lesion in the right lung seemed to show a tendency to clearing. The sputum, however, remained positive and on January 9, 1933, a pneumothorax on the

SAME CASE. *Fig. 16*—Showing large cavitation left upper following massive collapse with a return of toxic symptoms.

left side was attempted, but was found unsuccessful, on account of diffuse pleural adhesions. A phrenicectomy was then performed January 14, 1933, with considerable symptomatic improvement. The cavity showed a tendency to

diminish in size. When, in January, 1934, the patient developed considerable fever with severe gastro-intestinal symptoms, an examination then revealed that she had complete atelectasis of the left lung (Fig. 15), later followed by a reappearance of the cavity (Fig. 16). All the toxic symptoms then returned, but, as soon as her condition



SAME CASE. *Fig. 17*—Following thoracoplasty. Complete obliteration of cavity. Sputum negative.

warranted, a thoracoplasty was performed by Dr. Frank Berry of New York, at the Lenox Hill Hospital, with excellent result. A recent communication from Dr. Murray states that the patient has neither cough nor expectoration and her sputum is now negative (Fig. 17).

DISCUSSION:

The interesting feature in this case is that following a phrenicectomy the patient showed a symptomatic improvement with the cavity showing a tendency to healing. Following a massive collapse the cavity began to increase in size with a return of all her symptoms and a thoracoplasty closed the cavity and saved the life of the patient.

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7 Law Street.

Symptomatology in the Early Diagnosis of Pulmonary Tuberculosis

(Concluded from page 170)

The early symptoms in the order of their frequency of occurrence as an initial symptom were: Cough, 25 per cent; fatigue, 23 per cent; head colds, 21 per cent; dry pleurisy, 18 per cent; hemoptysis, 5 per cent; weight loss, 3 per cent; pleurisy with effusion, 2 per cent; expectoration, 1 per cent; hoarseness, 1 per cent; night sweats, 1 per cent.

The early symptoms in the order of the frequency of their presence at the time a physician was first consulted were: Cough, 77 per cent; pleurisy, 46 per cent (40 per cent without fluid and 6 per cent with fluid); expectoration, 46 per cent; head colds, 29 per cent; hemoptysis, 21 per cent; night sweats, 15 per cent; symptoms referable to the gastro-intestinal system, 12 per cent; hoarseness, 10 per cent; dyspnea, 4 per cent.

There is a hesitancy on the part of many physicians to speak frankly to the patient concerning his or her problem. Often inadequate advice is given after the diagnosis is made.

The responsibilities of the physician caring for tuberculous patients should include an attempt to protect non-tuberculous associates.

The tuberculous patient is too frequently treated symptomatically without thought of the underlying disease.

Chest x-rays should be taken and interpreted by men especially trained and qualified to do this work.

Routine physical examinations, although of value, are not entirely satisfactory.

CONCLUSIONS

1. A large percentage of tuberculous patients are in the far advanced stage of disease before being admitted to sanatoria.
2. The diagnosis of pulmonary tuberculosis is too frequently missed by the physician first consulted, the tendency being to treat the patient symptomatically.
3. Chest x-rays of patients with early tuberculosis require the interpretation of a qualified roentgenologist.
4. After the diagnosis is made, an attitude of unjustified secrecy often prevails, and for this reason inadequate advice is too frequently given.

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Clinical Experience with Protamine Insulinate

HOWARD F. ROOT, PRISCILLA WHITE, ALEXANDER MARBLE and ELMER H. STOTZ, Boston (*Journal A. M. A.*, Jan. 18, 1936, state that preliminary observations in fifteen cases have in general confirmed the observations of Hagedorn and his associates regarding the protamine insulinate that has been developed in their laboratories. Presumably by slow breakdown of the compound in the subcutaneous tissues, a blood sugar lowering action is secured which is evener and more prolonged than that which follows regular insulin.

Torulosis

In clinical manifestations of Torula LOUIS A. MITCHELL, Newark, Ohio (*Journal A. M. A.*, Feb. 8, 1936), is of the opinion that the portal of entry to the body is probably the respiratory tract, but the evidence at hand is not conclusive.

The New Attitude Toward Gonorrhea

• Meyer M. Melicow, M.D., Associate in Urology, College of Physicians & Surgeons, Columbia University, New York, N. Y.

REMARKABLE progress has been made in the study, understanding, management and treatment of many diseases. There is one, however, to which this comment cannot be applied. It is gonorrhea. A study of most venereal clinics will show a disheartening situation: overcrowding, poor sanitary facilities, a paucity of trained help, a dearth of sympathetic interest on the part of authorities, doctors and students, and above all, an absence of a definite and intelligent plan of treatment. These factors contribute to the jumble of dissatisfied patients, a record of delinquencies of from 50 to 100 per cent, a multiplicity of avoidable complications, an inexcusably large incidence of chronicity; and unnecessary recurrences, re-infections and contaminations. In private practice the situation is but slightly better, for physicians are in a quandary. Fad succeeds fad. Medical journals laud in succession medicaments whose number is legion, whose color range embraces the spectrum, and whose only common denominator is that not one is a specific for the gonococcus. Thus gonorrhea is the medical man's Waterloo and the "medicine" man's Paradise.

In amazement one will ask, "Why?" Why this chaos in gonorrhea? The question has an increased importance when one considers that here is a disease which is said to affect a considerable portion of males at one time or another, and a large number of females; a disease whose economic loss is great, whose psychic shock is profound, whose innocent victims often require surgical operations; a disease to which there is no natural or acquired immunity; and for which there is, at present, no specific cure. Any attempt to answer this question involves an analysis of the historical, sociologic and psychologic aspects of this common disease.

Historical Aspects

A study of the history of gonorrhea reveals a series of tragi-comedies. For many centuries the "venereal" origin of both gonorrhea and syphilis was not recognized. Then for a long time the two were looked upon as phases of the same disease. It is only within the last fifty years that they were differentiated, and identified as separate entities. In the meantime the gradual development of the various branches of medicine occurred; and with it arose urology, whose field embraced the venereal diseases. However, on account of the interesting secondary skin manifestations, dermatologists became interested in syphilis and one may say—appropriated it. Then, because of the remarkable late syndromes, neurologic in character, the neurologist likewise began to treat syphilis. The disease is now being treated and studied by these specialists. A tremendous impetus to research was given by the epoch-making synthesis of salvarsan by Ehrlich (1910). In the case of gonorrhea, however, the very opposite tendency appeared. It has been adumbrated by the activity in syphilis. The urologists, whose interests have developed along surgical lines, have practically disinherited gonorrhea. The disease has gone a-begging; an illegitimate among the morbidities.

Therefore the chaos in gonorrhea. Medical schools give it little attention, research laboratories disregard it, the clinics look upon it as a necessary evil . . . and the gonococcus goes merrily on!

Sociologic and Psychologic Aspects

The linking of sex and sin, the notion that gonorrhea is the wages of sin, and the unesthetic factors associated with gonorrhea have effected a state of shame, secrecy and guilt in the victims—and retarded progress. An excellent illustration of the attitude of society toward venereal disease is shown by insurance companies, almost all of which have exclusion clauses against syphilis and gonorrhea. Yet, aren't the latter diseases? Does one get gonorrhea through one's own choice? Is the love-smitten young lady who innocently acquires gonorrhea any more guilty of a crime than the epicure who unknowingly stuffs himself with fecally contaminated oysters and develops typhoid? On reflection, the latter is far less esthetically acquired. Yet typhoid is a respectable disease and insurance companies will pay for the disability; and gonorrhea is unclean and noncompensable!

Not only the laity, but the medical profession as well, avoid any active interest in gonorrhea. It is probably the expression of a deep rooted fear and wish complex. The doctor who treats gonorrhea has been looked down upon, and the deprecatory term "clap doctor" applied. There is apathy on the part of the medical student, disinclination on the part of his teachers, and only sporadic original studies in research laboratories.

Yet research in gonorrhea is of vital importance and needs additional support from individuals and research foundations. It is a common disease, for which we have no specific cure, against which we have no immunity, and which affects cryptic structures of extreme delicacy and complexity.

A Suggestion

Society must be psychoanalyzed as far as sex and sin and gonorrhea are concerned. The elements of shame and guilt ought not to enter when the health and happiness of so many of our population are involved. Medical schools ought to present the subject in a more thorough manner. Research should be encouraged, and if not financed by private sources, then the city or state ought to provide the funds.

Gonorrhea as a branch of medicine must find its place; it must cease to be a pariah among illnesses.

(Concluded on page 182)

A Five Year Survey of Acute Appendicitis

• Michael Burghardt, M.D., Brooklyn, N. Y.

A SURVEY has been made of 892 cases of acute appendicitis which were operated upon at the Norwegian Hospital from Jan. 1, 1930 up to and including Dec. 31, 1934. In this survey certain points of interest are found and will be discussed in this paper. An attempt has also been made to divide this group of cases into two classes, namely, those with a white blood cell count up to 10,000 and those above 10,000.

Sex

The male sex was slightly more represented than the female. There were 54.7 per cent males and 45.3 per cent females. The white blood cell count showed that 75 cases or 15.3 per cent of the males had a white count of 10,000 or below, while 82 cases or 22.9 per cent of females had similar counts.

Nationality

There were 27 different nations represented in this series and of these Germany, Ireland, Italy, Norway, Scotland, Sweden, and the United States had a major portion of cases.

Age Incidence

The youngest patient operated upon for acute appendicitis was 21 months of age and the oldest was 83 years old. Most of the ages were between 8 and 30 years.

Symptoms

The most common symptom was pain in the right lower quadrant. It was present in 99.1 per cent of the cases. It either appeared in the region from the onset and remained there or started as a generalized ache over the entire abdomen, later localizing itself at the navel, and finally over McBurney's point. However, there were eight cases with no complaint of any pain on admission to the hospital.

There were five cases where pain was present in the right lower quadrant, radiating toward the kidneys or toward the genitals.

Vomiting was present in 60.2 per cent of the cases. It was very often preceded by nausea, which was complained of by 44.6 per cent of the patients. Constipation and a feverish feeling were also frequent complaints. About one-third of the patients gave a history of taking an enema, a cathartic, or both, prior to admission. Diarrhea was also a frequent complaint in this series, although it usually is not a symptom of acute appendicitis.

Genito-urinary symptoms, e.g., polyuria, dysuria, or burning on urination, were also occasionally noted.

Physical Examination

Tenderness over McBurney's point was found in practically all the cases (99.92 per cent), while rigidity over the same area was present in only 598 cases or 67.04 per cent. Rebound tenderness over this area was not seen as frequently as the above two signs, being positive only in 403 cases or less than 50 per cent. Rectal and vaginal examinations were done only on 109 cases out of 892 and, of these, 81 patients complained of tenderness. Signs such as hyperesthesia and a palpable mass were only occasionally seen.

From the Surgical Service, Norwegian Hospital, Brooklyn, N. Y.

Temperature and Pulse

The temperatures on admission ranged between 97.0 and 105.5 degrees F. Most of the temperatures were between 98.5 and 103 degrees F. There were 53 patients with a temperature of 103 or over on admission.

The pulse rates were between 60 and 190 per minute on admission, while the majority ranged from 80 to 130 per minute.

Blood Counts

Of the 892 blood counts taken on admission there were 157 or 21.36 per cent which were only up to 10,000 W. B. C., while the rest were over 10,000 W. B. C. The lowest count was between the 2,501 and 3,000 class, while the highest was close to 51,000. The lowest poly counts were 50, while the highest were 98 per cent. The poly counts were increased in most instances.

Hospitalization

The stay at the hospital was mostly from seven to twenty-four days. The cases operated upon using the McBurney incision were discharged earlier from the hospital than those employing the right rectus incision.

Type of Incision

The favorite incisions were the lower right rectus and the McBurney, although the suprapubic midline incision was occasionally employed.

Drainage

There were 327 drainage cases, using either cigarette or iodoform drains or both.

Diagnosis

There were 600 cases or 67.26 per cent operated upon where the preoperative, postoperative, and pathological diagnosis coincided. Of these, 56 had a W. B. C. only up to 10,000. In 212 patients the laboratory did not agree with the surgeon's report and in 58 cases the operator changed the diagnosis after the operation. Patients with a temperature of 103 degrees or over were all diagnosed as acute appendicitis by the laboratory with the exception of four cases and there were no reports in five cases.

Mortality

Thirty-five patients expired or 3.9 per cent. Of these there were twenty-five males and ten females. In patients with a temperature of 103 degrees or over, eleven expired. The commonest causes of death were generalized peritonitis and paralytic

ileus, although other causes, e.g., broncho-pneumonia, tuberculosis, heart disease, etc., were also operative. Of the fatal cases 1.44 per cent died where McBurney incisions were used and 4.75 per cent where right rectus incisions were used.

Anesthesia

Spinal anesthesia was the method of choice in the adults, while general anesthesia was confined principally to children and older patients with low blood pressure or heart disease. Local infiltration was used in four cases.

Conclusions

1. A survey of 892 operative cases of acute appendicitis is given.
2. Male sex slightly preponderated.
3. Nationality did not seem to play any rôle.
4. Age was negative.
5. Symptoms were those of onset of a steady, increasing pain in the lower right quadrant or a generalized ache, later localizing in the lower right quadrant, followed by nausea and vomiting. Many of these cases gave a history of constipation and other gastro-enterological symptoms.
6. Examinations showed in most instances definite tenderness over the McBurney point and some rigidity. Rebound tenderness was not always elicited.
7. Temperature was generally not elevated at the onset but the pulse rate often showed an early rise.
8. The blood counts often showed a relative and an absolute increase in the poly count, but sometimes there was a reverse picture.
9. The McBurney incision was not used as much as the right rectus incision. When it was used it required less hospitalization and showed a lower mortality rate.
10. The mortality rate was only 3.9 per cent and the cause of death in most instances was either generalized peritonitis or paralytic ileus.
11. Spinal anesthesia was the preferable anesthetic when conditions allowed its use.

226 Seventeen Street.

The New Attitude Toward Gonorrhea

(Concluded from page 180)

Its status must be established, either as a specialty within urology, or as an entity apart from it. Perhaps the latter is more feasible. It would possibly create a new specialty which would include all the problems related to sex: venereal diseases; the psychic, functional, organic and sociologic disturbances associated with the sex function; sterility, impotentia, frigidity, sexual aberrations, etc. A new type of specialist, an understanding, sympathetic individual, would arise. He must be actually interested in gonorrhea, versed in psychology, psychoanalysis, the problems of the young as to sex, the cosmic urge, etc. The day of the "clap doctor" is past.

That there are a number of important and interesting problems demanding investigation is a well known fact. It is necessary only to enumerate a few:

1. The remarkable affinity of the gonococcus for the urethral mucosa of man stands out in marked contrast to the natural immunity of laboratory animals. Why? Is this the result of anatomical variations or biologic differences?
2. The relative resistance within man of certain types of epithelium as compared with the marked vulnerability of others (squamous *vs.* columnar). Is it a manifestation of a more efficient physical barrier, or a biologic phenomenon; or both?
3. The value of the complement-fixation test for gonorrhea needs to be determined and emphasized from the point of view of diagnosis and prognosis, and as one of the criteria of cure.
4. The status of *chemical* agents must be emphasized: the value, limitations and dangers involved in the use of local antiseptics and of oral medicaments.
5. The status of *biologic* agents must be investigated: the value and limitations of vaccines, gonococcus-toxin filtrates, and similar preparations.
6. The function of *physical* agents, such as heat, diathermy, ultra short-wave diathermy, needs unbiased clinical study before the market is inundated with cure-all contraptions.
7. There is a crying need for a flexible yet standardized compilation of the "criteria of cure."
8. Does the undisturbed gonococcus trapped in a focus within the body tend to die or will it remain dormant for years? This is a question that often arises.

●

As the first step, a model venereal clinic under the jurisdiction of competent, earnest physicians, unhampered by lack of funds or facilities, might be established. In this clinic a selected group of patients could be carefully studied and research carried out; and this, as a working model, should set the standards for other clinics and schools to follow.

911 Park Avenue.

Hysterical Paralysis and its Treatment

According to Abraham Myerson, Boston (Jour. A. M A., Nov. 16, 1935), hysteria, like many another concep: of medicine, is a fusion of conditions that resemble but are not identical with one another. From the hysterical state that is a total alteration of personality to the case in which hysterical manifestations appear as a sort of foreign body in the personality is a wide gap, which extends from an innate or constitutional disorder to an easily curable condition. The cases presented have a physiology or, at any rate, a physiologic psychology which, once understood, opens the doors to a rapid cure. But unless their mechanism of disability is understood the patients may be markedly incapacitated and wander from physician to physician vainly seeking help. In other words, a superficial pathologic condition blocks the normal conduct reactions of the individual as thoroughly as the deeper lying disorder in those cases in which hysteria is really a psychosis that demoralizes the individual. The first cases of the group make up a sample wherein there is disturbance in the flow of muscular power which constitutes the so-called hysterical paralysis. Something occurs, either accident, injury or disturbing emotional state, by which a part becomes immobilized for a time. In its genesis the paralysis represents what the author calls the hysterical amnesia for the proper interaction of muscles to produce motion. More simply, there is a sort of forgetting of the mechanism of successful motion and a substituted disorder, which produces paralysis. The cases he states are undoubtedly of the kind that make up the roster of miracles, by which healers, saints and shrines build up their reputation. They are recorded to show that the pathologic condition disappears when the symptoms are explained physiologically and the therapeutics is rationally directed.

An American biologist claims to have controlled the sex of 36 unhatched chicks by injecting "progynon" into the yolks of the eggs after they had been incubated five days.

Clinical Notes, Suggestions and New Instruments

Lymphogranuloma Inguinale with Labiorectal Fistula

• Samuel B. Schenck, M.D., F.A.C.S., Brooklyn, N. Y.

LYMPHOGRANULOMA inguinale is a disease far more frequent than has been supposed. In response to a questionnaire sent out by HELLERSTROM and WASSEN (1) 1636 cases have been registered. The disease is identical with tropical bubo. It is an infectious disease conveyed by sexual intercourse, but accidental infection is possible, cases having been found in little girls of families where the disease is present. Three cases are on record of surgeons infecting themselves in the hand while operating on buboes. In this large group there were more cases in men while BLOOM (2) states that women are more frequently infected. The initial lesion is herpes-like but may be intra-urethral (SCHUMACHER, 3) and so not visible even in a fresh case. The mortality from the disease itself is zero, but it usually becomes chronic with various complications. A positive diagnosis may be made with the Frei test (4), a specific cutaneous reaction. WASSEN (1) reports a series of clinical, animal and serologic experiments carried on at the dermatovenereologic clinic of the Caroline Institute and the Swedish State Bacteriologic Laboratory. Material from buboes was injected into the brains of monkeys and an extract from the brain and meninges possessed the same allergic and antigen qualities as the Frei extract when applied intracutaneously to patients with lymphogranuloma inguinale.

The histologic picture is not pathognomonic. There is marked cellular infiltration with inflammatory and purulent changes. HOFFMAN (5) mentions the presence of numerous large, light staining cells with small nuclei resembling epithelioid cells but without characteristic giant cells. Many plasma cells are seen, also necrotic and purulent areas, and hemorrhagic areas. Periglandular tissue contains inflammatory cellular exudate with lymphocytes and plasma cells. He describes the antigen as made by aspirating pus from a bubo before a fistula occurs, the patient being Wassermann free and free from tuberculosis. The pus is diluted with saline 5 to 10 times, then heated to 60 degrees C. for two hours the first day and one hour the second day. It is then cooled and tested for sterility. For diagnosis an intradermal wheal is made. In 24 hours a papule appears, surrounded by a reddened zone. In 48 hours the papule is larger, more tender and inflamed, and in 72 hours a pustule is present giving the appearance of a small boil.

TAMURA (6) has cultivated the virus by planting the pus in Tyrode's solution to which has been added a piece of guinea-pig kidney or liver. The etiologic agent passes through a Berkefeld N filter which in turn can again be grown on the same medium. This filtrate if injected into the groin of a guinea-pig will cause glandular swelling from which the pus can again be planted with the same results. He reports beneficial results from treating patients with this as well as with the Frei antigen.

WIEN AND PERLSTEIN (7) describe the progress of the disease in women in three stages, 1: the primary infection with involvement of the superficial lymphatics and resulting elephantiasis, 2: the genitorectal syndrome, where the primary infection is intravaginal instead of vulvar, with involvement of the deep lymphatics and resultant periproctitis, rectal stricture and rectovaginal fistula, and 3: the terminal stage, a continuation of the genitorectal syndrome with resultant ulcerative proctitis.

It seems to be universally agreed (5, 6) that the best results are obtained by treatment with repeated injections of the Frei antigen, or a similar product.

CASE REPORT

Mrs. L. G., a negress, 28 years old, was admitted to the gynecological service of the Jewish Hospital on August 17, 1935, complaining of a vulvar discharge and increasing constipation. The family history is negative, and the only previous illness was appendicitis for which an appendectomy was performed 4 years ago. Menstruation occurred every 28 days, was of 3 days duration and normal. She was married at 15, has one child 11 years old, and has been a widow for 7 years. Two months before admission she noticed swelling and pain in the vulva. It seemed that she had a vulvar abscess and her doctor advised hot compresses, after which an opening occurred in the mass and pus was expelled. In the meantime a painless jaundice occurred which after six weeks disappeared. The patient had been complaining of constipation for several months and on the day before admission after an enema she noticed the water coming out of the vagina. There has been a loss of 20 pounds in the last few months.

Examination:—Head and neck normal, heart and lungs normal. Abdomen: Gridiron scar of appendectomy. Liver and spleen not felt. Inguinal lymph nodes on the right side easily felt, two the size of almonds. The right labium majus is much enlarged and indurated, frothy bloody purulent material coming from a small opening about 2 cm. above the commissure. A sound placed into this sinus leads to the right of the rectum, but cannot be felt by a finger in the rectum because of the presence of an almost complete hard stricture about 2 cm. above the anal orifice. The right vaginal wall is indurated. The pelvic floor is firm, the uterus is anterior, normal in size and freely movable. Adnexa are not felt.

X-ray: plate # 137180: There is a probe in the fistulous tract extending from the right labium majus into the rectum. Lipiodol instillation outlines a fistulous tract as mentioned.

A Frei test was done on August 20, 1935. An intradermal injection of 0.1 c. c. of antigen was made into the flexor surface of the right forearm, with a definite positive reaction in 48 hours, a papule surrounded by an area of erythema surmounted by a pustule 24 hours later.

A proctoscopy showed a definite stricture of the rectum

(Concluded on page 186)

From the Department of Gynecology of the Jewish Hospital.

Cancer

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EXECUTIVE SECRETARY, NEW YORK STATE COMMITTEE OF THE AMERICAN SOCIETY FOR THE CONTROL OF CANCER

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The Basal Cell Epithelioma—A Résumé

• Anton W. Sohrweide, M.D., Syracuse, New York

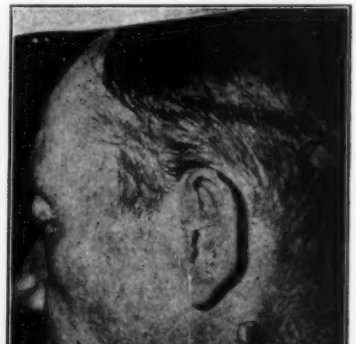
THE most common variety of cutaneous cancer seen by the general practitioner is the type generally known as the basal cell epithelioma. This large and important

Type 2.—The nodular type of ulcer, showing pearly border and central necrosis (3 years duration).

group of tumors embraces the so-called Jacob's ulcer, the rodent ulcer and the cancroid of early dermatologists. The writer, in a review of 2826 cases entering the surgical division of the New York Skin and Cancer Hospital in 1933, found that 232 or approximately 8.0 per cent were thus diagnosed. In March, 1935, the New York City committee of the American Society for the Control of Cancer estimated that in that city there were 18,620 sufferers from cancer of all varieties. Of this number it was established that 900 men and 430 women were afflicted with cancer of the skin. In this group is found the highest curability rate of all cancers. It is estimated at 90.0 per cent. The frequency of occurrence in private practice and the fact that early **diagnosis and prompt treatment** is the only means to combat effectively any neoplasm make this group of tumors a problem of more than passing interest to all physicians. In this regard the general practitioner, since the majority of the cases at some time or other pass through his hands, acts as a medical clearing house and is the strongest link in the medical chain seeking to check the ravages of such growths.

OCCURRENCE

While the location of these neoplasms is varied, it is interesting to note that about 85.0 per cent occur on the exposed surfaces of the body, particularly about the head and the neck. In a series of sixty-one cases studied by the writer, the localization was as follows: face, ears, neck and scalp, fifty-six; breast, two; extremities, three. It is well known that definite predilections exist. In this series the following sites were noted: the bridge of the nose, four; alae, eight; labial folds, ten; total twenty-two. The inner canthus of the eye, seventeen; the outer canthus of the eye, ten. Scattered on the cheeks, seven. These findings are in accordance with those recorded by Sequira, who reported the sites of origin in 220 cases. Basal cell epitheliomata rarely are seen before the age of 30; the fruitful period of origin being the decade between 40 and 50 years. Youth, however, is no bar; recently a 19 year old girl entered the clinic of the Post-Graduate Hospital and was found to have a basal cell epithelioma on the upper left cheek. Cases of similar growths have been reported in the literature in which infants were the sufferers. Some writers state that males are more frequently affected than females to the extent of 75.0 to 90.0 per cent. In this series of cases, as well as those of other writers, there was no such selectivity, the division being about equal between the sexes. The New York City committee quotes figures



Type 3.—Button-like rolled edge ulcer (2 years duration).

showing about 48.0 per cent more skin cancers in men than in women.

Examinations of the site of many basal cell epitheliomata confirm the long established fact that some tend to spring from senile or seborrheic keratoses. Hence, such lesions

always deserve thorough examinations, particularly when there is a history of constant irritation or of recent enlargement.

Pathology

The intelligent study of these tumors requires some knowledge of the pathological picture. In the true sense of the word, these growths are not carcinomatous. In

Type 4.—The cystic variety. Note soft, translucent cysts.

their clinical course and histologically, their comparative benignity is shown for they do not invade the lymphatic tissue, except in the rarest instance, as do the squamous cell variety; consequently, there is no metastasis. The destructive qualities result from direct extension except in the not uncommon basal-squamous forms. For surgical purposes, it is sufficient to know that the earliest manifestation of such a neoplasm is a club-like down growth of untransformed cells from the germinative layer of the surface epithelium, the hair follicles or the sebaceous glands. Dilation of the blood vessels and round cell infiltration of the rete occur early. Continued down growth of cells causes the separation of these masses from the connecting epithelium and produces a varying histological picture. Cystic degeneration appears early in the central portions of such detached masses and some nuclei may be distinguished in vacuoles either within or without the cells. Surface ulceration occurs when the growth invades the rete and with the breaking of the basal layer invasion of the corium begins, causing a varying pathological picture. Frequently, cysts or solid finger-like extensions appear under the microscope. Cystic degeneration is often extensive and in the large cavities the walls are often lined with two or three layers of cancer cells. About 15.0 per cent of all basal cell tumors are the so-called "mixed types" composed of both squamous and basal-cell or an intermediary form, in which the cells themselves are not characteristic.[1] Such growths though embraced in the scope of this paper are properly treated as infiltrating, metastasizing tumors.

Clinical Aspects

The basal cell epithelioma arises on the site of some previous lesion, however small. The seborrheic wart, the small epidermic nodules, various keratoses, and minute ulcerations, in the order named, afford the basis for these tumors. Frequently, an initial pruritis, then a slight cutaneous thickening and ulceration with serous or purulent discharge are first noted. Such a lesion, when examined closely, often presents tiny hard pearly masses at the edge, together with numerous minute blood vessels extending into the surrounding normal skin. Stretching often accentuates the contour of such pearls and brings their otherwise hidden relationships into relief. Following this common stage of early growth, the neoplasm may take one of several courses depending on the rapidity of growth, local tissue resistance and local nutritive supply.

Such clinical types are:

1—The flat rodent ulcer, slowly progressing and mutilating. 2—The nodular ulcer. 3—The button-like rolled edge ulcer. 4—The cystic variety characterized by soft translucent cysts. 5—The depressed scarlike or morphea-like ulcers. Basal cell epitheliomata of whatever variety or clinical form run a chronic course during which time characteristic pearly nodules are seen, if not along the entire border, at least in some portion of it, giving typically an uneven edge, hard and shiny, frequently crusted and increasingly ulcerated. Generally, these lesions bleed easily but do not cause pain or other symptoms beyond a mild pruritis. Perpheral spreading and internal spontaneous cicatrization is the rule. Ulceration is frequently deep in the subcutis, at times attacking bone or cartilage, causing much mutilation. The base of such ulcers is necrotic, often covered with a seropurulent or serosanguineous discharge, the whole presenting a fungoid appearance. This variety, the so-called rodent ulcer of the early writers, is slowly progressive during a period of twenty or thirty years and while local invasion is the tendency it does not metastasize. Lesions of this kind should not be confused with syphilis, tuberculosis, blastomycosis, bromoderma or ioderma.

The differentiation of the basal cell tumors from the squamous cell variety is not always made with certainty, the microscope being the only certain means of differentiation. Generalizations are sometimes helpful and should be borne in mind. First, both varieties occur anywhere on the skin; the basal cell tumors most often appearing on the face and shoulders, rarely on the limbs. Second, basal cell tumors originate on the glabrous skin, on apparently normal tissue and on keratoses or cutaneous anomalies, whereas the squamous cell growths appear on the mucous membrane or the mucocutaneous junctions. Third, the growth of basal cells is slow, so that tumors the size of a split pea, less than one year in duration, should be suspected as squamous cell growths; those over one year as basal cell tumors. Fourth, the basal cell tumors are frequently smooth and less indurated than the keratotic and more infiltrating squamous form. The microscope shows the characteristic cells of the respective variety.

Treatment

Treatment in special cases is at times difficult to decide. Since these tumors do not metastasize, except in most ex-

Type 5.—Depressed, morphea-like ulcer of 1½ years duration. Note rolled edge.

ceptional instances, even the moderately advanced cases can be cured if operation is sufficiently radical. Recent pathological studies, many times confirmed, have shown that the chaotic cellular growth spreads like an upright cone with apex at the site of the visible lesion and the broad base in the corium beneath. Therefore, it is necessary to remove tissues beyond that of the lesion itself. Experience has shown that removal of tissue by whatever means necessitates, for safety sake, the destruction of normal tissue at least one-fourth inch beyond the growing

mass. The rules for uncomplicated cases are simple. Since the majority of these growths occur on the visible area of the body, particularly the face, a good cosmetic result should always be attempted. This is usually attainable without sacrificing the primary object, i.e., the complete removal of the malignant tissue. To the writer's mind, surgical removal is most satisfactory in lesions up to 3.5 cm., because in this manner not only is the malignant tissue removed but a cosmetically controlled scar pleasing to the patient is obtained. When basal cell tumors have extended into bone or cartilage treatment by anything other than surgery is apt to be disappointing. The so-called cancer pastes and caustics have no place in modern treatment. In their employment there is no way of controlling the extent and penetration into the malignant tissue.

A popular and effective method of removal, when scarring is allowable, is the combined curettage of all the soft necrotic area followed by a thorough desiccation of the base and edges one-quarter inch beyond the actual lesion. This method is useful on large lesions and is the preferred one in cases in which previously treated lesions tend to recurrence on the edges. Thoroughness of removal must be stressed.

In areas where scarring is optional the actual cautery can be effectively used. It is simpler than excision and is practically bloodless.

X-irradiation has many advocates and it certainly produces striking results in some cases. This is the method of choice in inoperable cases, in the aged or debilitated, and is useful in areas where extensive desiccation or surgery cannot be employed, as on the eyelids or the nasolabial folds. It is best to use three or six skin units of x-ray filtered through three millimeters of aluminum in one or two doses rather than in many small doses, for recurrences are frequent and the lesions soon become radioresistant to the latter. At best, recurrences are more common than in the two preferred methods; in our series of 100 cases unselected in the clinic and treated with x-rays there were 20.0 per cent failures. Irradiation can be employed usefully after endothermic or surgical removal. A plane surface must always exist to assure equal distribution of the rays, hence, it is well carefully to examine curved surfaces, such as the nose before irradiation.

When radium is used, like the x-ray it should be employed in heavy exposures, three to six skin units being more successful than fractional doses. Radium can best be employed in the cases that are suitable for x-ray therapy.

As far as the treatment of choice is concerned, it might be said in summary that two facts must be kept in mind: (1) that circumstances alter cases, so that the method of eradication should be selected for the individual patient; (2) that it is imperative to avoid insufficient measures, for they are sure to aggravate the condition.

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Lymphogranuloma Inguinale with Labiorectal Fistula

(Concluded from page 183)

about 1½ cm. above the anal orifice. Digital exploration proves this to be a tight fibrotic ring which barely admits the finger on pressure. The proctoscope shows a puckered opening of the stricture with pale firm mucosa. A biopsy punch was taken from the stricture ring. The use of graduated rectal dilators was advised. These dilators were given to the patient who used them several times daily.

Frei test repeated on August 29, definitely positive.

Biopsy report: S. P. # 507: two fragments of vascular granulation tissue densely infiltrated with small round cells and polys make up the entire specimen. No definite diagnosis made (Dr. Bela Halpert).

Wassermann and Kahn tests: Four plus.

Cervical and labial smears: Gram negative extracellular diplococci.

Complement fixation test for gonorrhea negative.

Chest x-ray negative, no tuberculosis, heart normal.

Blood Chemistry: Sugar 99 mg., urea nitrogen 7 mg. per 100 c. c., W.B.C.8800, polys 76, lymphos, 20, Monos. 4 per cent., R.B.C. 3,800,000, Hgb. 75 per cent., sedimentation 55 mm. in an hour. Temperature range was from normal to 100.6 except for a rise to 103 after the proctoscopy and biopsy. Urinalyses repeatedly normal.

Treatment consisted of the use of rectal dilators, antiluetic treatment, and treatment with the Frei antigen. Antiluetic treatment consisted of iodobismitol and bismarsen, 2 c.c. and .1 Gm. respectively intramuscularly, and mapharsen. The Frei antigen was diluted to 1: 320, then the concentration was increased as it was given therapeutically, in doses of 0.1 c.c. intradermally, for 6 doses.

The patient was discharged on September 25, 1935. The inguinal glands had greatly diminished in size and were only just palpable. The fistulous opening in the right labium had entirely closed, leaving a small indurated area at that site. The rectal stricture was about the same as it was on admission. The patient was referred to the Out-Patient Department for a continuation of antiluetic treatment as well as treatment with the Frei antigen. On October first she was seen there and given mapharsen, a series of ten injections being begun. Her condition had improved as far as her general health was concerned. The fistula was closed.

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Intravenous and Retrograde Urography

In an attempt to compile an up-to-date estimate of the value of intravenous urography, making comparisons with the well-established method of cystoscopic (retrograde) urography and treating the subject from the standpoint of the roentgenologist, the urologist and the pathologist, R. E. Cumming and G. E. Chittenden, Detroit (*Journal A. M. A.*, Feb. 22, 1936), prepared a questionnaire, which was mailed to more than 350 active physicians. An accurate summing up of the personal opinions of a great many outstanding men is presented in tabulated form. While the majority of these are urologists, a considerable list of roentgenologists appears in the file of answered questionnaires, and a survey of the opinions of a number of pathologists made as a separate investigation has furnished the background for conclusions representative of the three groups mentioned. The inaccuracies current in the practice of retrograde urography are well known, especially to experienced clinicians who are best able, on the other hand, to interpret the many variations in roentgenograms obtained by the intravenous method. Some roentgenologists seem willing to attempt a complete diagnosis of disorders of the urinary tract without the counsel of a clinician. With the two methods of urography in constant and indiscriminate use, it is more than ever necessary to establish a proper alliance between roentgenologists and clinical urologists. The correct balance allows primary choice of either method with a willingness to seek confirmation by means of the other. Many individual problems can be solved by one method; in some situations only one can be used. Taking advantage of both and adding the regular practice of multiple or serial exposures at carefully chosen intervals, one may obtain maximal information. Well-known dangers of retrograde urography, which formerly were ignored or accepted as unavoidable, are now largely eliminated, so that justifiable fears as to potential renal damage and extension of infection no longer exist. The authors have found no evidence of alarm or of serious consequences verified by pathologists, in connection with the use of the various mediums now employed. Elements of danger present in intravenous urography, which still cannot be ignored, appear in the tables and bear close scrutiny. The variety of answers that the questionnaire has evoked makes one waver between the adoption of intravenous urography to the exclusion of the retrograde method and a wholesale condemnation of the intravenous method and regular use of retrograde urography. This great divergence in opinion shows a need for more uniformity in technic with regard to both methods, and a more consistent pooling of information on an unbiased level.

Contemporary Progress

NEUROLOGY

The Systemic Blood Pressure, Pulse and Spinal Fluid Pressure Following Craniocerebral Injury

E. J. Browder and H. R. Meyers (*American Journal of Surgery*, 31:403-426, March, 1936) report a study of blood pressure, pulse and spinal fluid pressure in 23 cases of head trauma. The studies were begun one-half to one and one-half hours after the injury. In all patients there was loss of consciousness varying in duration from fifteen or twenty minutes to three days. Ten of the patients died, and of those who recovered 2 were committed for psychiatric care. It was found that in the fatal cases death was not preceded by a steadily increasing cerebrospinal fluid pressure, nor was there evidence of increased intracranial pressure of a degree sufficient to cause medullary paralysis and death. The highest cerebrospinal fluid pressure found in this series was 46 mm. Hg. This agrees very closely with the findings of other investigators in cases of brain trauma. The classical "pattern of signs" considered to indicate an increase of intracranial pressure also was not found in this series (and has rarely been present in the authors' general experience with head injuries). This classical "pattern" consists of a steady rise in blood pressure, steady fall in pulse rate, decrease in respiratory rate, stupor, coma, etc. Yet in this series it was found blood pressure may be high, pulse rate slow, and respiratory rate slow in the presence of normal intracranial pressure; and that blood pressure may be low or normal, pulse rate normal, and respiratory rate normal in the presence of increased intracranial pressure. While the state of consciousness is of importance in combination with all available data, it cannot be taken as a "single criterion." Temperature may be normal or slightly subnormal in the presence of increased intracranial pressure, and definitely subnormal when the intracranial pressure is normal. Repeated observations of spinal fluid pressure do not indicate the course and prognosis in any given case; the spinal fluid pressure may return to normal and remain so, and yet the patients die. The authors are unable to suggest any other "pattern" of signs and symptoms as a guide to the prognosis and therapy of cerebral trauma, and they believe that each case must be studied intensively "as a whole" and "on its own merits."

Roentgen Treatment in 119 Gliomas

E. Sachs, J. E. Rubinstein and E. N. Arneson (*Archives of Neurology and Psychiatry*, 35:597-615, March, 1936) report 119 cases of cerebral glioma treated with the Roentgen rays. The technique employed was 200 kv., 15 ma., 50 cm. target-skin distance, 1 mm. copper and 1 mm. aluminum filter; two or three portals of entry (12 x 12 cm.) were treated with the beam centered over the tumor bed; the average dose at each treatment was 820 to 825 r. Roentgen-ray treatment was not used until after operation at which as much tumor tissue as possible was removed. In cases of medullo-blastoma and hemangioblastoma, Roentgen-ray therapy had a definitely beneficial influence in relieving symptoms that persisted after operation; in some cases of glioblastoma, the treatment also had a definite inhibitory influence, but of a more temporary nature. In some other types of glioma, Roentgen-ray treatment sometimes brought about an improvement in symptoms, but as these types grow slowly, they do not show convincing evidence of definite benefit from irradiation. From their study of these cases the authors are convinced that larger doses of Roentgen radiation should be used in the treatment of brain tumors to obtain optimum results. This may be accomplished by various methods: By using multiple portals; by using fractionated exposures over a prolonged time; by raising the percentage depth dose either by increasing the target-skin distance or using heavier filters or a combination of the two; by devising a safe method of giving therapy into an open cranial wound, thus avoiding injury to scalp and bone flaps and delivering a larger dose directly to the tumor bed.

Treatment of Sydenham's Chorea With Intramuscular Injections of Magnesium Sulphate

M. R. Contreras of Mexico (*Presse médicale*, 44:228-229, Feb. 8, 1936) reports the treatment of Sydenham's chorea in children by the intramuscular injection of magnesium sulphate. He uses a 25 per cent. solution, and gives 5 c.c. to children of one to five years of age and 10 c.c. to older children every other day. The injections are made deep into the muscles of the buttock, and followed by prolonged massage. After the fifth injection, there is a very definite improvement; usually recovery is complete by the tenth injection, but a few additional injections may be given. There may be some pain at the site of injection, but there is no untoward reaction of any kind, no damage to the kidneys or to the heart. In 2 cases in which there were associated cardiac symptoms, these were also relieved by the treatment. Cases with severe choreic movements respond to this treatment as do those with less severe symptoms. Magnesium sulphate causes a dilatation of the cerebral arterioles and improves cerebral circulation and relieves cerebral edema; but its therapeutic effect in chorea cannot be attributed to this action alone. It may be that magnesium has a favorable action on the neurones, or that it has a specific action against the causative organism.

COMMENT

Magnesium sulphate is a well known depressant to the central nervous system. We are not familiar with its previous use in Sydenham's chorea. Judging from the unusually good results of our Mexican friend it deserves consideration in this acute infection.

The best results in this territory have been obtained by means of a hyperpyrexia induced by administering typhoid vaccine.

H. R. M.

Recovery In Meningitis Due to Type I Pneumococcus

C. K. Weil (*Archives of Internal Medicine*, 57:514-520, March, 1936) notes that until recent years, recovery from pneumococcus meningitis was a "rare and exceptional event" and the disease was usually regarded as fatal. While a few cases have been reported in the more

recent literature in which recovery has followed treatment with serum or ethylhydrocupreine hydrochloride, the type of the infecting organism has not usually been determined. In a review of the literature the author finds but 8 cases of recovery from pneumococcus meningitis in which the type of the organism was reported. He reports an additional case of pneumococcus meningitis due to type I pneumococcus in which recovery followed the intravenous and subarachnoid injection of large amounts of Felton's antipneumococcus serum of types I and II. In this case the organism reached the central nervous system through a fissure in the cribriform plate resulting from a trauma to the head. From his study of the reported cases, and his own results, the author concludes that in types I and II pneumococcus meningitis, the best method of treatment consists of adequate dosage of pneumococcus serum given intravenously and intraspinally with a small amount of ethylhydrocupreine hydrochloride given intravenously or into the carotid artery combined with subarachnoid drainage (or if necessary, cisternal puncture). In his own case he gave 180,000 units of serum intravenously and 50,000 units intraspinally and 90 c.c. of 0.5 per cent. acriflavine hydrochloride—the largest dose of serum recorded in pneumococcus meningitis. In meningitis due to type III or group IV organisms, the chances of successful specific therapy are less. In the author's case, the patient has been followed up for two years and shows no recurrence.

Insulin Treatment of Drug Addiction

M. P. Chen and his associates at the Peiping (China) Union Medical College (*Journal of Nervous and Mental Diseases*, 83:281-288, March, 1936) report the treatment of morphine and other drug addiction by complete withdrawal of the drug, and high doses of insulin with food and luminal as soon as withdrawal symptoms appear. The insulin is given in doses of 20 to 30 units every three hours or so with food and some luminal. This high dosage of insulin is kept up for three to five days. The insulin causes an intense craving for food, and the patient is allowed to eat all that he wants; this seems to take the place of the craving for drugs. When food is thus freely permitted, a marked hypoglycemia does not develop; the lowest blood sugar found in cases treated was 78 mgm. per cent. Muscular spasms or twitchings occurred in a few cases, but these symptoms and any others suggesting hypoglycemia were promptly relieved by giving glucose or orange juice. In the more successful cases there is only a short period of irritative symptoms, and then there is a period of relaxation with more taking of food, better assimilation and gain in weight. This treatment has a psychotherapeutic value, as well, as the patient recognizes food as a symbol of health; and this symbol is utilized "as a starting point" for mental and social rehabilitation.

COMMENT

This is a very interesting and aggressive attack on a tremendous social problem. It is particularly appropriate that this work should be performed by a member of a race where the problem is a grievous one. It is a clever method of inducing a direct substitution.

It is rather obvious that a patient receiving this treatment requires meticulous medical care and nursing attention.

H. R. M.

Mental Changes Following Head Trauma In Children

A. Blau (*Archives of Neurology and Psychiatry*, 35:723-766, April, 1936) reports a study of children who showed mental changes after head trauma. In 6 cases there was an acute psychosis occurring immediately after the trauma, as soon as the patient recovered consciousness; this was characterized by "unrestrained instinctual emotional and motor behavior" with associated fear and anxiety; recovery was complete in a few weeks. A chronic behavior disorder was observed in 12 children which closely resembled the postencephalitic behavior disorder. Roentgen-ray examination of the skull was made in 9 of these cases, and in 5 showed skull fracture in the frontal region, in 4 no evidence of fracture. Post-traumatic epilepsy was present in 5 children, which led to secondary intellectual deterioration and behavior disorders such as occur in other forms of epilepsy. Cerebral defect conditions, such as aphasia and intellectual loss, may follow head trauma in children; a case of post-traumatic loss of scholastic accomplishments in a child of ten, with subsequent relearning, is reported. The author suggests that behavior disorder in children following head trauma is the result of localized lesion of the prefrontal associated area of the brain.

COMMENT

The above is a rather brief abstract of a lengthy article well worth reading in the original. It is pertinent in view of the rather large number of children now being subjected to severe head injuries.

It is a pleasure to note that the profession is slowly drawing away from the older unscientific label of "Fracture of the Skull." This is about all this label means. We are slowly absorbing the fact that it is the contents of the bony skull which requires careful study, as the future of the individual depends on the degree of damage to which the brain is subjected.

While many children receive severe "Head Injuries" without apparent subsequent ill sequelae, the finding of 22 cases with definite mental change proves that we should not pass lightly over any head injury in a child.

The reviewer is engaging in a similar study in which we hope to review cases over a period of years, rather than study the immediate effects. We are impressed in our few cases with the comparison of the late effects of head injury to the behavior following epidemic encephalitis.

We are not in sympathy with the glib statement that an injury to the brain does not cause a psychosis. We wonder whether those who make these remarks are aware of what constitutes a psychosis.

H. R. M.

PHYSICAL THERAPY

Therapeutic Use of Local and Systemic Temperature Elevation

W. Bierman (*Medical Record*, 143:250; 283, March 18 and April 1, 1936) notes that in the United States short radio waves have been employed chiefly to produce a rise in systemic temperature, while in Europe, the shorter wave lengths have been used to a greater extent to give local heat treatments. The author has employed the short wave current for local treatments in a variety of conditions. If flat condensor plates are used, they are held at a distance of about one-half inch to one inch away from the area to be treated; by means of cuff electrodes, it is possible to secure higher temperatures within the tissues than by means of the lateral plate technique. He considers that the short wave currents have certain definite advantages over diathermy (or longer wave currents) for local application of heat. They can be more easily applied over small areas and over such special regions as the ear, nasal sinuses, etc.; and they heat the tissues more uniformly. The systemic temperature can be raised by other methods than short wave therapy. The author has found the hot bath a valuable method. The patient is placed at first in water at about 37.8° C. and the temperature gradually increased to about 42.2° C.; by this means the patient's body temperature is raised to approximately 41° C. in about forty-five minutes. The patient is then transferred to bed and kept underneath a hood containing electric light lamps for four or more hours. Such a treatment is "strenuous"; the patient is usually given a sedative, and as much fluid as he desires, especially water containing 0.6 per cent salt. A cool towel may be placed on the forehead, or an electric fan turned on the face. The temperature should be carefully watched and not allowed to go above 41.5° C. The pulse rate should be taken at frequent intervals and if it increases beyond 160 beats a minute, treatment should be "continued with caution if at all."

Local treatments with short wave current may be employed to advantage in any case where medical diathermy has shown itself of value; it may also be used in local infections such as abscesses, carbuncles, furuncles, etc. If suppuration occurs in these conditions, drainage

should be provided by surgical means if necessary. A combination of local heat to the pelvis and elevation of the systemic temperature has proved of special value in the treatment of gonorrheal pelvic infection in women.

COMMENT

The use of so-called short wave treatments has gained undue popularity. There is nothing new about the theory of the action of this current and the medical public should hesitate before taking up this method of treatment. With the exception of the few points brought out by Dr. Bierman and the ability to treat acute infections with short wave, diathermy still is the method of choice for inducing heat in tissues. The drawback in short wave treatments is the fact that the amount of heat generated in the patient's tissues can not be estimated. This makes overdosing easy, and the handling of the machine itself is so tricky that burns are much more liable to occur than when diathermy is applied with the proper technique.

N. E. T.

Roentgen-Ray Therapy in Epidemic Meningitis

H. Hippe and U. Grüninger (*Klinische Wochenschrift*, 15:304-305, Feb. 29, 1936) report 2 cases of epidemic meningitis treated by Roentgen irradiation and note that a case had been previously reported from the same clinic by Hippe and Lickint in 1934. In these cases, the Roentgen therapy was used only after the usual serum treatment had failed to control the meningeal symptoms and the fever. The Roentgen treatments were given over five or six fields on the head and back of the neck using a dosage of 120 to 150 r. for each field, with 180 kv., 6 ma., 0.5 mm. copper and 1 mm. aluminum filter, and 30 c.m. distance; one field being treated each day. In the cases reported, complete recovery resulted promptly, although the patients had been previously under treatment for a month or more without much improvement. The authors are of the opinion that in the acute stage epidemic meningitis should be treated by the usual method of lumbar puncture and serum injection. If this does not result in prompt disappearance of the meningeal symptoms and subsidence of the fever, Roentgen therapy is indicated. The Roentgen rays do not act directly on the infecting organism; their favorable action is due to diminution of the secretion of the cerebrospinal fluid and reduction of the inflammatory reaction in the meninges.

COMMENT

Perhaps the explanation of Hippe and Grüninger that Roentgen rays cause a reduction of the inflammatory reaction in the meninges accounts for the results that have been achieved for years by Bordier, who has long advocated Roentgen therapy in the earlier stages of poliomyelitis.

N. E. T.

The Use of Quartz Glass in Promoting Heliotherapy

R. L. Cook and M. C. Ryan (*Medical Bulletin of the Veterans' Administration*, 12:379-380, April, 1936) report that at the Veterans' Hospital at Rutland Heights, Mass., large panes of quartz glass were installed in the double door leading out to the heliotherapy deck, so that in cold and windy weather exposures to the sunlight could be given without opening the door or taking patients outside. It was found that exposure to the direct sunlight through the quartz glass at a distance of a foot and a half from the window for forty-five minutes produced a first-degree erythema. Indirect sunlight transmission at the same distance from the window focused on an area of skin the size of a ten-cent piece for three minutes produced a first-degree erythema. The sun focused onto a laryngeal mirror through the quartz glass onto a specified area of skin at a distance of six inches produced a slight erythema. Experiments carried out for eleven months showed no deterioration of the quartz glass. The indirect sunlight transmission has proved most valuable in the treatment of tuberculous lesions of the lip, soft palate, tongue and nasal septum; the reflected sunlight, using the laryngeal morror, has given excellent results in the treatment of laryngeal tuberculosis.

COMMENT

It is interesting to infer from this article that pure quartz can be commercially utilized to make window panes. Experience over a period of years amongst school children in England has shown that using the English Vitaglass has a distinctly beneficial effect upon growing children. Vitaglass is the only commercial product so far that will pass over fifty per cent of the available ultraviolet light. This is after so-called solarization. The price of this is very close to good quality window glass, but if quartz can now be worked into such valuable window panes, it will be a distinct advantage to the medical profession in the treatment of tuberculous conditions as mentioned in this article.

N. E. T.

Roentgen-Ray Therapy of Certain Infections

F. M. Hodges (*American Journal of Roentgenology*, 35:145-155, February, 1936) notes that much of the early work on the Roentgen-ray therapy of infections was done in the United States, but that recently this use of Roentgen irradiation has gained more headway abroad and has been largely neglected by American radiologists. The chief action of small therapeutic doses of Roentgen rays on inflammatory lesions is to destroy leukocytes and especially lymphocytes. While "at first thought" it may not seem logical to destroy leukocytes which act as a protective mechanism against the infective process, yet it is true that the early destruction of some of these cells more rapidly provides adequate amounts of "the vital substances, ferment, antibody or whatnot, which are contained within the leukocyte for defensive purposes." Clinically the response to irradiation is most prompt, as a rule, when the leukocytic infiltration is most marked. The author has treated erysipelas, boils and carbuncles, infected rhinophyma and angioma, granuloma, and fungus infections, especially blastomycosis, and sporotrichosis, with Roentgen rays. In some of these conditions, unfiltered rays, using 85 kv., are employed; in others filtered rays, with 125 kv., give better results. Unfiltered rays are usually employed in the treatment of carbuncle, giving several small dose of 100 r. each, but in very early cases a larger dose of filtered rays will usually abort the condition. In furunculosis, the filtered rays have been found to give better results, using 4-6 mm. aluminum filter and weekly doses of 125 r. The author has also used the Roentgen rays in the treatment of Mikulicz's disease and of parotitis. In the latter condition, whether acute, subacute or chronic, three to five treatments of 125 r. each, with 125 kv., 4-6 mm. aluminum filter and 10 inch distance have given excellent results in these cases. In localized infections, especially on and around the face, which result from minor injuries, but may spread rapidly and cause of septicemia, Hodges has found the Roentgen rays of great value in limiting the infection and promoting healing. As soon as there is the "slightest spread" of the infection to surrounding tissues, a treatment of 100 to 150 r. unfiltered low voltage Roentgen rays is given. This usually results in a walling off of the infection; but if there is no improvement in twenty-four hours, serum therapy is indicated. The Roentgen rays are also of value in the treatment of other infections, as sinusitis, but in the conditions named, Hodges considers that "this method seems without reasonable doubt to offer more than any other."

COMMENT

Roentgen therapists have noted for years the beneficial effects of x-rays on infections but the exact method by which these radiations work has never been completely described. All forms of radiation have distinct effect upon skin infections but the way in which this is brought about is still a riddle. Even the myth of the bactericidal action of ultraviolet light in vivo has been exploded. Prolonged research is the only hope, but still clinical results, such as mentioned, are worth attention.

N. E. T.

Effect of Carbon Arc Irradiation on Blood Pressure and Cardiac Output

H. Laurens (*Archives of Physical Therapy*, 17:199-205,

April, 1936) reports a study of the effect of exposure to a carbon arc lamp on the blood pressure and cardiac output of persons with normal blood pressure and of hypertensive patients. In most of these experiments, the so-called "sunshine" carbon arc was employed, giving ultra-violet 6 per cent., luminous 50 per cent., and infra-red 44 per cent. In a few instances "C" carbons were employed giving 9 per cent. ultra-violet and 67 per cent infra-red. The amount of radiation employed was sufficient to produce a definite erythema reaching its greatest intensity in twenty-four hours, accompanied by some tenderness and subsequent peeling but not blistering. Of the 20 persons studied, all were males; in 8 the blood pressure was within normal limits; the other 12 subjects had definite hypertension; one of these patients had arteriosclerosis,, and one a mild nephritis; in the others the hypertension was of the essential type. In the patients with normal blood pressure, the carbon arc irradiation produced a slight lowering lasting one to two days, accompanied by a definite increase in cardiac output averageing 21 per cent. The maximum cardiac output was reached on the second or third day after irradiation, with a return to normal by the fifth or sixth day. In the hypertensive patients, the average drop in systolic pressure was 17 mm., ranging from 2 to 41 mm., and in diastolic pressure was 7 mm., ranging from 2 to 20 mm. The cardiac output increased in 21 instances by an average of 39 per cent, decreased in 6 instances by an average of 23 per cent., showed no significant change in 5 instances. Changes in oxygen consumption and pulse rate were small and inconstant; hemoglobin changes indicated an increase in blood volume whenever the cardiac output increased, and a possible decrease when there was a decrease in cardiac output. The decreased blood pressure following irradiation, the author considers may be a direct effect of vasodilatation, and the increase in cardiac output and blood volume compensatory reactions; this ability to compensate is more frequent in normal persons which accounts for the more constant occurrence of increased cardiac output in this group than in the hypertensive group.

COMMENT

It is difficult to say whether any direct effect of light upon the skin reflexly causes change in physiological processes. The more work done in light therapy, the better we will understand the importance of the skin as an organ of the body. Sunburning the skin will cause a superficial hyperemia of long duration and anything that draws the circulation to the surface naturally will affect blood pressure.

N. E. T.

PUBLIC HEALTH, INDUSTRIAL MEDICINE AND SOCIAL HYGIENE

Tuberculosis as a Public Health Problem To-day

A. E. Russell (*Southern Medical Journal,* 29:428-433, April, 1936) states that mortality from tuberculosis has been steadily reduced in recent years, not only in the United States but throughout the civilized world. Nevertheless it still causes more deaths than any other communicable disease, and it still is one of the most vital public health problems. The eradication of the disease depends on early diagnosis and control of all active cases. Statistics show that the majority of cases admitted to tuberculosis hospitals for treatment are in the far advanced stage of the disease, whereas it is the earlier cases who would be most benefited by treatment and who should also be removed from homes where they are a menace to all with whom they come in contact. An adequate tuberculosis survey of school children, with the use of tuberculin, giving an approach to the family through the children, is a good method of beginning a "tuberculosis program" in a community. Examination of workers and of applicants for work in industrial plants reveals many early cases of tuberculosis; examinations of school teachers, college students, student nurses and other groups of young adults are of definite value in discovering early cases. The problem of inducing active cases to accept treatment in a suitable institution for their own welfare and as well as for the protection of others is also a public health problem; almost every state has such institutions available, and if the infective period of the disease is shortened by effective treatment, the incidence of the disease will be automatically reduced.

Artifically Induced Malaria as a Public Health Problem

H. J. Shaughnessy (*Illinois Medical Journal,* 69:147-149, February, 1936) reports cases of malaria among uninoculated patients and employees of an Illinois State Hospital where malaria inoculation had been used in the treatment of neurosyphilis; 2 persons residing outside the institution but nearby were also infected. Malarial parasites were found in the blood in 25 cases; 6 of these were patients who had been previously inoculated with malaria; 11 were uninoculated patients; 6 employees, and 2 persons outside the institution. These persons had shown symptoms of malaria, although in some cases the symptoms were relatively slight and somewhat typical. Although malarial inoculations had been used in this institution for several years, these cases developed only after a new strain of malaria had been used which was obtained from a natural case of the disease. These findings indicate that a reservoir of potential infection existed among patients inoculated with malaria and incompletely treated to rid them of malaria parasites. Some of these patients showed gametocytes in the blood, anopheline mosquitoes were breeding within flying distance, and neither inoculated nor uninoculated patients in the institution were protected by screens. Since it seems probable that inoculated malaria may be transmitted by mosquitoes, the author advises that in institutions using malaria therapy, no blood be transferred from patient to patient until microscopic examinations show that only tertian parasites are present; all inoculated patients be protected from mosquitoes by screening until parasites disappear from the blood under quinine therapy, as shown by at least three successive examinations; and that the "standard" course of quinine therapy be given these patients; also that mosquito breeding in the vicinity of such institutions be rigidly suppressed.

COMMENT

The use of physical means for temperature elevation, a method which has been especially developed in the United Stateso, haas the advantage that it obviates the danger of a spread of malaria. This in time may prove to be of great importance.

W. C.

Toxicity of Chloropene and Duprene

W. F. Oettinger and his associates of the Haskell Laboratory of Industrial Toxicology, Wilmington, Del. (*Journal of Industrial Hygiene,* 18:240; 271 April, 1936) report a study of the toxic properties of the synthetic rubber known as "DuPrene" and of chloropene which is the "starting material" for this product, and is also used in other chemical industries. The experiments with chloropene were carried out first. The chloropene was given different species of laboratory animals by subcutaneous injection and by mouth in some of the experiments, but most of the experiments were done with inhalation of the chloropene in different concentrations. These experiments showed chloropene to be definitely toxic; it caused a fall in blood-pressure due to vasodilatation of the abdominal blood vessels; it has a definite toxic effect on the liver as shown by a persistent and significant increase of the icteric index of the blood and the appearance of bile pigments in the urine, as well as by postmortem studies; is a depressant to the central nervous system; causes degenerative changes in the male, (but not the female) reproductive organs; and causes severe damage of most of the vital organs, characterized by edema and degenerative changes. Chloropene may be absorbed through the skin as well as by inhalation. These experiments indicate that in industry chloropene should be handled "with greatest precaution." Contamination of the skin and hair should be avoided; and the concentration

of the chloropene vapor should be diminished by adequate ventilation. Concentrations as low as 0.3 mg. per liter may cause toxic symptoms. For the early detection of chloropene poisoning, determinations of the icteric index of the blood and tests of the urine for albumin, reducing substances and bile pigments should be made at intervals; and also frequent determinations of blood pressure. A diet high in carbohydrates should be advised, to maintain proper glycogen deposit in the liver.

In the study of crude DuPrene, as used in the manufacture of rubber goods, it was found that this substance did not resemble chloropene in any respect, and was practically devoid of toxic properties. Animal experiments showed that this substance gave off no toxic vapors, except that at temperatures above 75° C. it caused a moderate irritation of the mucous membranes of the eyes and nose, but no systemic effect. Strapping of pieces of crude DuPrene or of rubber sheeting made from DuPrene on the skin of human subjects caused no irritation.

Handlers of Arsenic Tri-Oxide

H. G. Irvine and D. D. Turnacliff (*Archives of Dermatology and Syphilology*, 33:306-314, February, 1936) report a study of workers in a so-called mixing-mill where arsenic tri-oxide was used in the preparation of a "poison-bait" for distribution to farmers during a grasshopper plague. Nineteen cases are reported in which an arsenic dermatitis developed; this was accompanied by irritation of the nasal mucous membrane, which was red and granular. Certain areas of the skin were especially susceptible, such as the cuticle around the nails, the groins and scrotum, the neck and areas where the clothing rubbed the dust into the skin. In cases where the dust had a purely local effect, it was found that men could continue their work with proper care and with sodium thiosulphate given by mouth or intravenously. But if there was a generalized dermatitis of the sensitization type, workers had to be removed from contact with the arsenical. A study of workers who were exposed to the arsenical without developing symptoms showed that they excreted considerable quantities of arsenic in the urine. The authors note the value of sodium thiosulphate in the treatment of industrial arsenical poisoning, but state that they have not found it suggested in modern text-books on industrial toxicology, although dermatologists have used it for years "with great satisfaction."

Results of Treatment of Early Syphilis

S. C. Peterson and C. R. Donovan (*Canadian Public Health Journal*, 27:176-179, April, 1936) report the results of treatment and control of early syphilis in the Venereal Disease Clinic of the Province of Manitoba. From October, 1933, to June 30, 1934, 240 cases of early syphilis were treated at this Clinic; of these 49 were primary sero-negative cases; 73 were primary sero-positive cases; and 118 were in secondary stage. Of the primary sero-negative cases only 5 were women, and of the primary sero-positive cases, 15 were women; while women predominated over men in the secondary group, although constituting only 35 per cent of the total series. This indicates very clearly that women are not coming for treatment as early as the male patients. Of the series treated, 79 have been discharged from treatment as cured, 58 are regarded as probably cured, but are still attending for observation, 39 are still under treatment or transferred to other clinics, and 66 have been "lost." This percentage of "lost" cases —27.5 per cent.—cannot be considered as large as much of the clinic material is drawn from a population which has "no fixed abode." If only the patients who have attended the clinic satisfactorily are considered, the percentage of cured and probably cured (but still under observation) is high—82.7 per cent. Although not as high a percentage of females as of males come for treatment in the primary stage of the disease, the percentage of females considered cured is larger than that for males; and of the cases in the secondary stage, a smaller percentage of females was "lost." This would indicate that while women pay less attention to syphilis in the primary stage, they are more persistent in taking treatment when it is begun. The male population also may be more floating in character than the female. A "continuous overlapping scheme of treatment" is employed in this Clinic, with 30 to 40 injections of 914 and 50 to 60 injections of bismuth as a standard. In all cases considered cured or probably cured, the Wassermann reaction of the blood and the cerebrospinal fluid were negative. A public health nurse is attached to this Clinic, who does follow-up work and brings in contacts for examination. Of 10 husbands of women patients examined, 5 were found to have a positive blood Wassermann; of 9 wives of men patients, 5 had a positive Wassermann; of 40 children of patients examined, 5 were found to be syphilitic. A number of patients who showed a tendency to be delinquent in treatment have been brought back by the social service worker, and such a worker is a necessity for successful functioning of a venereal disease clinic.

COMMENT

The minimum aim of a syphilis clinic should be to render patients permanently non-infectious. If it fails to accomplish this end its work is largely wasted.

W. C.

OPHTHALMOLOGY

Fever Therapy in Ocular Syphilis

A. M. Culler and W. M. Simpson (*Archives of Ophthalmology*, 15:624-642, April, 1936) report the treatment of 58 cases of syphilis with ocular complications by artificial fever therapy combined with chemotherapy. For inducing fever an air-conditioned cabinet (the Kettering hypertherm) was used; with this apparatus the body temperature can be raised to 105° F. (40.5° C.) or over in forty to sixty minutes. Bismuth arsphenamine sulfonate was the antisyphilitic drug employed. In most cases ten weekly fever treatments of five hours each were given, and a course of thirty injections of the bismuth arsphenamine. In 4 cases with extra-ocular palsy, there was no evidence that fever therapy gave better results than other methods of treatment. In 11 cases of interstitial keratitis, the duration of the disease was distinctly shortened, and the tendency to recurrence definitely lessened. Of the 20 eyes involved in these 11 patients, none have less than 6/30 vision and 18 have 6/12 vision or better; one patient has had a recurrence. The response was most prompt in the cases in which an opaque central disk of plastic exudate was present—a type of the disease that usually produces the greatest degree of visual damage. In 10 cases of exudative uveitis there was prompt clinical improvement after one or two courses of fever therapy; all but one patient (with advanced degenerative changes) recovered useful vision; one had a mild recurrence, probably due to inadequate fever therapy. In 14 cases of neuritis and neuroretinitis, there was a definitely favorable response to the treatment; all the patients now have useful vision (6/12 or more), although 8 have residual pallor of the disk and slight contraction of the visual fields; the average period of observation in these cases is nineteen months. In 7 cases of active choroiditis, the lesion responded promptly and subsided, but with residual scars and visual field defects; good central vision resulted in all but one eye; and there were no recurrences in an average period of observation of twenty-four months. In 16 patients with optic nerve atrophy, the visual fields and visual acuity remained practically unchanged; in an average period of twenty months, the atrophy did not progress in most cases. Fever therapy may therefore arrest the progress of optic nerve atrophy, and if the atrophy is associated with foci of active infiltration along the optic tract, it is possible that such lesions would respond to fever therapy; at least atrophy of the optic nerve is not a contra-indication to fever therapy.

C. P. Clark (*Archives of Opthalmology*, 15:250-269, February, 1936) reports 12 cases of neurosyphilis with atrophy of the optic nerve treated by malarial inoculation, (or in one instance by typhoid vaccine intravenously). Eight of these patients had tabes and 2 each dementia paralytica and dementia paralytica of the tabetic form. In 8 cases (including the one treated with typhoid vaccine) there was some visual improvement and evidence of arrest of the progress of the optic nerve lesion; in 4 there was no improvement and the ocular condition progressed to total blindness. In these cases the optic nerve atrophy was in an advanced stage before treatment was instituted. The state of the pupils was unchanged in all 12 cases. The author is convinced that if treatment with malaria, or other acute febrile disease,

is given before the optic nerve lesions are advanced in time to arrest the syphilitic infiltration of the optic nerves, chiasma and optic tracts, "the decline of vision is halted and the patient is saved from blindness." In malaria and similar forms of fever therapy, the important therapeutic factors in addition to the fever, are vasodilation, increased body metabolism, and stimulation of the reticulo-endothelial system; the author places the most emphasis on the last factor as "an effective defense against syphilis of the central nervous system."

COMMENT

The most serious of syphilitic lesions of the eyes have been the inflammations and exudations involving the uveal tract, the choroid, and the optic nerve. They have been very resistant to the most skillful chemotherapy, and the final results have all too often been very bad. The addition of straight hyperthermy as reported in the first paper has either increased the effect of the drugs remarkably or had an additional effect of its own, causing rapid absorption of the exudates, and a very unusual restoration of useful vision. There would seem every reason for hoping that this form of hyperthermy might be equally effective in similar lesions not of syphilitic origin for which we have been using foreign protein therapy and the like with quite variable results. The same treatment in interstitial keratitis has apparently been quite successful, but this is not so important since results with older methods have been good. There is quite a weight of professional opinion to the effect that interstitial keratitis is only slightly modified by antispecific treatment, and ordinarily runs a long but rather benign course. It is notorious that treatment does not protect the second eye even when the first is rapidly improving. In those forms of exudates along the course of the optic nerve that so often result in optic atrophy the method seems equally promising and effective, while in the old atrophies and paralysis it is not very useful.

One of the strong points about straight hyperthermy with a Kettering instrument is the fact that it is much less unpleasant and much safer than the malarial fever therapy.

In the second paper, however, we have advocated a different form of hyperthermy—that produced by the inoculation with malarial organisms, which has proven very useful in the very conditions in which the first method has been ineffectual, the degenerative types of optic atrophy. The principle is, of course, quite different, for the straight hyperthermy probably acts by wide dilations of blood vessels, the removal of toxins and exudates, and the more thorough saturation of stagnant tissues with the drug used. In the second method dependence is not placed on chemicals at all but on the intense vascular stimulation and diaphoresis that go with sharp attacks of malaria, as well as the outpouring of antibodies which it causes. The reaction produced cannot, of course, be accurately foretold, or controlled, and the risks and the discomfort are correspondingly increased.

E. M. A.

The Genesis of Glaucoma

O. Barkan, S. F. Boyle and S. Maiser (*American Journal of Ophthalmology*, 19:209-215, March, 1936) describe a method devised by them for obtaining a highly magnified stereoscopic view of the angle of the anterior chamber throughout the whole circumference of the angle in a short space of time and without discomfort to the subject. For this they employ the Zeiss binocular corneal microscope and the Vogt slitlamp so adjusted as to afford a true picture of this angle. This apparatus is employed in conjunction with the contact glass of Koeppe. With this apparatus they have found that in the normal human eye, the angle of the anterior chamber is of unequal breadth, being narrower above and below. With advancing age there is increasing (senile)sclerosis of the sclero-corneal trabecula that separates the aqueous from Schlemm's canal and an increasing accumulation of pigment granules, which in some cases can be demonstrated to have their origin in the iris pigment epithelium. These physiological changes are quite different in character and distribution from the sclerosis and pigmentation of the trabecular part of the angle which the authors have found to be characteristic of one type of primary glaucoma. In this type of glaucoma pigment "dust" and granules permeate the trabecula over Schlemm's canal, and some collect on the surface and project into the aqueous; others infiltrate the pores and even permeate the walls of the canal. In another type of chronic glaucoma, there is an advance of the iris-lens diaphragm that narrows the entrance to th eangle of the anterior chamber and forms peripheral iris adhesions; these adhesions prevent the outflow of aqueous into Schlemm's canal. In the first type of glaucoma, blockage of the filtration angle by peripheral iris adhesions may also be a later stage of the process. The reasons for the shedding of iris pigment, the pathological sclerosis of the trabecula and the advance of the iris-lens diaphragm, which are the etiological factors in these types of glaucoma, the authors believe, are to be sought in "dysfunction of the sympathetic with local vasolability, in alterations in the constitution of the aqueous or vitreous due to biochemical changes locally or constitutionally, or in endocrine disturbances." Exacerbations in the clinical course of glaucoma are due to increased obstruction of the filtration angle or to neurogenic factors.

COMMENT

This is an important paper. Of recent years we have come more and more to regard the filtration angle of the anterior chamber as the key to the question of glaucoma, and there has been much theoretical discussion over the possible ways in which filtration might be impeded. Unfortunately, however, this angle has been very difficult to see even with the gonioscope of Troncoso, and its changes still more difficult to interpret.

The writers of the paper have developed a technique by which, with the addition of a Koeppe contact glass to his slit lamp outfit, the surgeon can learn to get a binocular high power view of the filtration angle. He will eventually be able to say whether it is physiological or pathological, and recognize the danger of glaucoma and its probable type long before there has been any actual increase in the tension. He can perhaps decide whether miotic treatment is likely to be of more than temporary benefit, and finally make a much more intelligent choice of operation than is now possible.

E.M.A.

Roentgen-Ray Treatment of Tuberculosis of the Iris

D. Negru and D. Michail (*Fortschritte auf dem Gebiete der Röntgenstrahlen*, 53:544-549, March, 1936) report the treatment of 21 cases of tuberculosis of the iris with the Roentgen rays. The technique used was 120 kv., 2 ma., 2 mm. Al., and 30 cm. target-skin distance; the total dose was 150 r, given in three doses of 50 r each at intervals of four days or more. Two to four series of treatments were given, with intervals of four to six weeks between series. Most of the 21 cases treated showed tuberculous lesions of the other structures of the eye, but the iris lesion was the most important. In 17 cases examination showed miliary tubercles on the iris. In these cases the response to Roentgen-ray therapy was excellent; in 10 of these cases the vision was greatly improved, sometimes restored to normal; in 2 cases complicated by cataract, the Roentgen-ray treatment of the iris lesion made a successful cataract operation possible; in the other cases, although the iris lesions were healed, destructive changes in other structures prevented any improvement in vision. In 3 cases with diffuse tuberculous lesions of the iris without tubercles the Roentgen-ray therapy had no definite effect. There was some inflammatory reaction to the therapy in these cases, but in the cases with tubercles no such reaction was observed. The reaction that did occur was of short duration and there was no late reaction or damage to the eye in any case. Recurrences were rare, and if they were in the form of miliary tubercles, responded quickly to further treatment.

Dinitrophenol Cataracts With Signs of Tetany

E. B. Spaeth (*American Journal of Ophthalmology*, 19:320-323, April, 1936) notes that with the use of dinitrophenol for the reduction of weight, cases of cataract

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Economics

Department Editor: THOMAS A. MCGOLDRICK, M.D.

Medical Society of the State of New York Disapproves Consolidated Edison Company Plan for Medical Care

NATURE of the Plan: Inception in Manhattan in 1902 by original Consolidated Gas Company. Present plan an extension to all affiliated companies. Financial control with firm. Employee check-off (5/9 of 1%) from weekly salaries (range $17.00 to $45.00 per week, average $32.40). Company contributions in addition.

Scope: Assures complete medical, surgical and limited dental service to the 40,000 or 50,000 employees of the Consolidated Edison and Affiliated Companies. Unlimited hospitalization as ward patients.

Methods: Mutual Aid Society of Employees contracts with a limited number of physicians for home and office care: Remuneration on a per call basis at fees less than the minimum schedule of fees established by the Workmen's Compensation Law. Agreements with certain hospitals to extend unlimited institutional care in the wards at $4.00 per day. Physicians on those staffs to be paid at rates far less than those established by the Workmen's Compensation Law. No cooperation with medical societies.

Reaction of Organized Medicine: The individual county medical societies of New York City have opposed the plan as a form of commercialized exploitation of the public and its medical profession and especially because it denies the employee free choice of physician and free choice of hospital, because benefits are not limited to the subnormal income class, and because the proposed schedule of fees for professional care is far below the minimum schedule of fees established by the Workmen's Compensation Law. A subcommittee of the Co-ordinating Council of the Five County Medical Societies of Greater New York was appointed to consider the plan and the following principles were established before this plan or any similar plan would be recommended for approval by organized medicine:

1. *Free choice of physician:* The patient must retain the privilege of freedom to choose any physician licensed to practice in the community who is willing to give service under the rules and conditions established.

2. *Personal relationship between patient and physician:* The personal relationship between the patient and his physician must not be interfered with by a third party.

3. *Hospital Care:* The patient and his physician must be free to select any qualified hospital willing to extend care under agreements and conditions established. Institutions cannot contract nor agree to furnish medical (M.D. professional) service. The medical profession considers pathological and x-ray diagnosis as medical services.

4. *Medical Society cooperation:* Cooperation with the Medical Society of the County of Kings and approval of the Medical Society of the State of New York is essential in any plan. The County Medical Society is prepared and willing to prevent abuses and adjust disputes affecting any or all parties.

5. *Benefits limited to individuals below the comfort level standard of incomes:* No plan for group medical service will be approved which extends the benefits to individuals whose annual income is in excess of the following (adopted by the Economics Committee of the Medical Society of the State of New York): Single person $1,000; married couple $1,500; per each dependent $250.

6. *Extension of benefits:* Medical service benefits may be extended to dependents only.

7. *Fee schedule:* The schedule of fees paid by the insured's association or society for medical service in the home, office or hospital must not be less than the minimum schedule of fees established by the Workmen's Compensation Law. Supplementation to be made by a joint committee representing all affected parties.

Reaction of Company Officials: Representatives of organized medicine met with officials of the Mutual Aid Societies and the above principles were presented for discussion. The physicians were informed that the Mutual Aid Societies were not interested in the opinions of the profession and that no effort would be made to effect cooperation. A spokesman stated that the Mutual Aid Societies pay the money and therefore control the plan; that they have agreements with enough physicians and hospitals to carry out their plan; and that *they have the doctors under their thumb and will keep them there.* With such opposition it was evident that no progress could be expected from joint conferences.

On April 27, 1936, the following resolution was introduced by the Medical Society of the County of Kings and passed at the annual meeting of the House of Delegates of the Medical Society of the State of New York:

WHEREAS, it has come to the knowledge of the Section on Industrial Relation of the Economics Commission of the Medical Society of the County of Kings, through a committee representing the paternalized mutual aid associations of the Consolidated Edison Co., Inc., that hospital service has been engaged for the benefit of their members, and that the medical staffs of such hospitals are accepting a schedule of fees for their professional services which is unfairly competitive, and,

WHEREAS, this schedule of fees is inimical to the reasonable economical security of the medical profession of the community at large, and,

WHEREAS, this form of collective bargaining constitutes competitive exploitation of the medical profession and is prejudicial to the public interest:

THEREFORE, BE IT RESOLVED, that any institution which engages in and encourages or permits by accessory participation such competitive commercialization of medical care, or which permits its medical staff members to so engage their professional practice, shall be regarded as operating contrary to the welfare of the public and its medical profession, and that any such institution shall be regarded as tending to lower the professional standards of the community, and,

BE IT RESOLVED, that any such hospital so engaged be immediately cited to the American College of Surgeons with a recommendation that approval of such hospital be immediately reconsidered and that the approval of any such hospital be rescinded, and,

BE IT RESOLVED, that it shall be considered unprofessional and unethical for any member or members of the medical staffs of such hospitals to accept remuneration for their professional services extended to such patients based upon a schedule of fees not approved by the Medical Society of the County of Kings, and,

BE IT RESOLVED, that any member of the Medical Society of the County of Kings who may engage in such practice shall be cited to the Censors, and,

BE IT FURTHER RESOLVED, that the Delegation representing the Medical Society of the County of Kings in annual meeting of the House of Delegates of the Medical Society of the State of New York, be instructed to introduce these resolutions and actively support their adoption in the next session which convenes April 27, 1936, and,

BE IT FURTHER RESOLVED, that a copy of these resolutions be published in the BULLETIN of the Medical Society of the County of Kings and that a copy be sent to each hospital and sanitarium in the County of Kings and to the Co-ordinating Council of the Five County Medical Societies of Greater New York with a request that due notice be taken thereof.

It is evident that a united profession can prevent this and other industrial concerns from forcing plans for medical practice upon the profession and public. Should the opposition fail there can be little doubt that the present standards of private practice and Workmen's Compensation will be seriously affected by rapid extension of such schemes among all employed groups.

ASSOCIATED PHYSICIANS OF LONG ISLAND

June Outing, Tuesday, June 9th, at the Crescent Country Club and the Huntington Hospital, Huntington, L. I.

The Associated Physicians will return to the Crescent Country Club in Huntington for a day of golf Tuesday, June 9th, to comply with many requests from members who enjoyed the outing at the same place in 1934. There will be an innovation this year, however, in holding a scientific session in the Huntington Hospital, which is but a ten minutes' auto ride from the Club. The program, by members of the staff of the Hospital, has been arranged by Dr. John L. Sengstack.

All day. Golf and tennis at the Crescent Country Club.
12:30 P.M. Lunch in the Huntington Hospital as its guests.
2:00 P.M. Inspection of the hospital.
3:00 P.M. Scientific Session at the Huntington Hospital.

SIX CASE REPORTS

(1) Recurrent Biliary Colic Following Cholecystectomy. Dr. Cyril E. Drysdale, discussion by Dr. Robert F. Barber.
(2) Recurrent Rupture of Gastric Ulcer; Operations; Recovery. Dr. R. M. Arkwright, discussion by Dr. Albert F. R. Andresen.
(3) Rupture of the Rectum; Etiology Unknown. Dr. Warren P. Kortright, discussion by Dr. Edward Truesdell.
(4) Pyo-ureter; end result of conservative treatment over one year. Dr. Morris R. Keen, discussion by Dr. Howard T. Langworthy.
(5) Questionable Encephalitis with Recurrence in four year old child. Dr. Olive W. Wheaton, discussion by Dr. Thurman B. Givan.
(6) Mastoiditis with Lateral Sinus Thrombosis; Operation; Recovery. Dr. Thomas W. Faulkner, discussion by Dr. Robert L. Moorhead.

5.00 P.M. Business meeting in the Crescent Country Club Golf House.
6:30 P.M. Dinner in the Crescent Country Club, $3.00 per plate.

Doctor Charles C. Murphy and his Committee guarantee the usual good dinner and an entertaining speaker.

The Huntington Hospital has been recently rebuilt and the new building, with its special equipment, will be open to inspection. This 75-bed hospital is located at 270 Park Avenue.

The scientific program will be similar to that presented last year in Southside Hospital, Bay Shore. The short, varied case histories and discussions held the interest of the members for two hours and the assembly room was overcrowded due to the unexpected interest shown.

COMMITTEES FOR 1936

Scientific Committee: Chairman—John L. Sengstack, M.D., Huntington, N. Y.; E. Jefferson Browder, M.D., Brooklyn, N. Y.; Warren H. Eller, M.D., Sayville, N. Y.; Fedor L. Senger, M.D., Brooklyn, N. Y.; Harold R. Merwarth, M.D., Brooklyn, N. Y.; Warren I. Titus, M.D., Glen Cove, N. Y.; Arthur C. Martin, M.D.; Hempstead, N. Y.; Louis A. VanKleeck, M.D., Manhasset, N. Y.; Augustus Harris, M.D., Brooklyn, N. Y.; G. Frank Sammis, M.D., Hollis, N. Y.; Joseph G. Patiky, M.D., Huntington Station, N. Y.; Albert E. Payne, M.D., Riverhead, N. Y.

Membership Committee: Chairman—Carl A. Hettesheimer, M.D., Hempstead, N. Y.; Edwin A. Griffin, M.D., Brooklyn, N. Y.; Otho C. Hudson, M.D., Hempstead, N. Y.; L. Howard Moss, M.D., Richmond Hill, N. Y.; Henry C. Eichacker, M.D., Ridgewood, N. Y.; Kenneth T. Young, M.D., Rockville Center, N. Y.; Frank B. Cross, M.D., Brooklyn, N. Y.; Everett C. Jessup, M.D., Roslyn, N. Y.; William J. Tiffany, M.D., Brentwood, N. Y.; Paul Nugent, M.D., East Hampton, N. Y.; Wilbur S. Stakes, M.D., Patchogue, N. Y.; Edwin J. Grace, M.D., Brooklyn, N. Y.; Edward P. Dunn, M.D., Brooklyn, N. Y.; Paul E. Wesenberg, M.D., Brooklyn, N. Y.; Walter F. Stillger, M.D., Hempstead, N. Y.; Everett Whitcomb, M.D., Port Washington, N. Y.; E. M. McCoy, M.D., Central Islip, N. Y.

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Historical Committee: Chairman—George T. McMurray, M.D., Farmingdale, N. Y.; Donald E. McKenna, M.D., Brooklyn, N. Y.; Louis F. Garben, M.D., Islip, N. Y.; William J. Malcolm, M.D., Jericho, N. Y.; Harry Mencken, M.D., Flushing, N. Y.

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News and Notes

Charles Gordon Heyd, M.D.

Unanimously elected Vice-President, American Medical Association, Kansas City, Missouri, May 14, 1936.

Born: Brantford, Ont., Canada, August 27, 1884.
Preparatory education: Brantford Collegiate Institute.
A.B. 1905—University of Toronto.
M.D. 1909—University of Buffalo
Resident House Surgeon, N. Y. Post-Graduate Hospital, 1912-14.
Adjunct Professor Surgery, N. Y. Post-Graduate Medical School and Hospital, 1914-20; Professor since 1920.
Professor of Surgery, Post-Graduate Medical School and Hospital, Columbia.
Director of Surgery, Post-Graduate Hospital.
Consulting Surgeon: Women's Hospital, N. Y.; Good Samaritan Hospital, Suffern, N. Y.; Morristown Memorial Hospital, Morristown, N. J.; Dover General Hospital, Dover, N. J.; Greenwich Hospital, Greenwich, Conn.; Norwalk General Hospital, Norwalk, Conn.
Commanding officer Mobile Hospital No. One, A.E.F., France, World War.
Decorated Legion of Honor (France) 1932.
Member: American Association Obstetricians, Gynecologists and Abdominal Surgeons; American Association for Thoracic Surgery; American Gastro-Enterological Association; New York Surgical Society; Fellow of Academy of Medicine; Fellow American Medical Association; Fellow American College of Surgeons, Vice-President 1932; President New York County Medical Society 1931; President Medical Society of the State of New York, 1933.
Co-author: The Liver and Its Relation to Chronic Abdominal Infection (with John A. Killian and Ward J. MacNeal).
Contributor to medical publications.

Medical Library Association

The Thirty-eighth Annual Meeting of the Medical Library Association will be held in St. Paul, Minnesota, June 22 and 23, 1936, and in Rochester, Minnesota, June 24. Sessions will be held at the Ramsey County Medical Society, New Lowry Medical Arts Building, St. Paul, and at the Mayo Clinic, Rochester.

The program will include addresses, discussions, and

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Editorials

The Coming of Age of the Gonococcus

That forgotten germ, poor relation of the bacteria, the lowly and plebeian gonococcus, erstwhile soiled and spoiled darling of the "clap doctor," is at last receiving a measure of honor. A movement is under way calculated to confer real dignity and self respect upon an outcast organism. Organized medicine has been diligently at work for two years laying a foundation for a more intensive study of and research upon the gonococcus and for "solicitation of financial support commensurate with the biologic, medical, social and economic importance of the subject," all of which is set forth in the report of a special committee (Ruth B. Thomas and Stanhope Bayne-Jones: *Am. J. Syph., Gonor. and Ven. Dis.* (supp.) **20**:9, Jan., 1936).

It has been found—some of us already suspected this—that much of the literature on this subject is worthless and that the clinical intelligence at work on the problem does not match that of the laboratory. The commercial approach, of course, serves most often to confuse thought on the subject; but for that matter, most thought in this field is "not marked by lucidity and coherence."

Believe it or not, this Cinderella-like microorganism is about to take its place on the Park Avenue of the bacterial aristocracy, with a coat of arms (escutcheon bearing a syringe, a sound, and the diplococcus symbol—two opposed coffee beans, rampant; motto: I levy taxes for Eros) and all other appurtenances denoting importance. Think of all the years that it has been down in the gutter consorting with quacks, how it has been snubbed even by urologists, and how it has been exploited by unscrupulous business factors. It's about time that humanity got a break on this score. At last it is to be taken seriously and properly dealt with, not as a mere guerrilla or bandit, but as a great divisional commander of royal rank, constantly and ably menacing a vulnerable flank.

All hail, thane of Cawdor . . . that shalt be king hereafter!

Eugenics Twaddle

Our purpose should be, says Professor E. A. Hooton of Harvard University, to segregate and eliminate the unfit, worthless, degenerate and antisocial portion of each racial and ethnic strain in our population, so that we may utilize the substantial merits of the sound majority, and the special and diversified gifts of its superior members.

All very well, but the gangsters heading governments and the crooks directing finance-capitalism will never be in any danger of sterilization. Indeed, such folk are usually strong for eugenics. There's a paradox for you.

We will take more interest in eugenics when the Hearsts and the Goulds, and many of the eugenists themselves, are taken into some account.

The Siege of Fort Independence

The tendency to centralize industrial power is a commonplace fact, wherefrom floweth "big business." Thus only two hundred corporations and about 2,000 individuals now control half of all industry in the United States.

Despite the general social tendency to centralize authority the medical profession is still too individualistic to be completely merged—and submerged. There are units that still function vigorously without forming any part of the wheel-within-a-wheel (chain store) medical system. We are all for a strongly organized profession, with a united front where fundamental matters are concerned—one big union, if you like—but there must always be units which, in a sense, will be independent. Medical individualism being what it is, we doubt whether this spirit can ever be ironed out; and we sincerely hope it never will be.

Such an organization as the Associated Physicians of Long Island, for example, has a unique mission in a regimented world. It mans a bastion of Fort Independence.

Feminine Ailments of Today and Yesterday

Blanche Colton Williams' biography of George Eliot (Macmillan Company, 1936) is in large part a record of the indifferent health of the great writer. One reviewer notes that this biography gives us "whole paragraphs of backaches, headaches, neuralgias and depressions all duly dated." But we suspect that George Eliot is accorded this meticulous record merely because she was a famous person and that the typical middle-aged Englishwoman of her times suffered much the same aches and pains. We furthermore dare to affirm that such women did not differ greatly from their present-day sisters, except in the fact that *they lacked the dubious analgesia of acetylsalicylic acid.*

Changing Disease Types

Three diseases which changed in their clinical behavior long ago are syphilis, tuberculosis and leprosy. Syphilis in former times ran a more fulminating course and wrought more havoc in an immediately obvious way (the sunken noses of the Middle Ages), with neurosyphilis not so much in evidence. Tuberculosis, before the generation just passed, flourished as "consumption," that septic, hectic syndrome that killed so lavishly, viciously and pathetically. Leprosy in the long ago was highly virulent and pandemic—as widely spread a scourge, in fact, as its successor, tuberculosis, was to be later.

It is interesting to observe the changes now tak-

ing place in some of our familiar diseases. For example, scarlatina is becoming milder and milder, so that one is barely able at times to make a diagnosis. Forty years ago lobar pneumonia seemed to prevail in children, rather than the lobular type. And of late diabetes presents an acute abdominal syndrome at times that seems on its face to belong in the surgical category; such a type was not seen twenty-five years ago.

We have instanced three ancient and three modern diseases illustrating change in type. It would be worth while to institute a detailed study covering a wider range.

Chronic Disease and the Spa

The vast problem of chronic disease looming before us will put greater and greater demands upon spas such as Saratoga Springs. This great institution has been developed rapidly of late years, through a kind of prophetic foresight. Now that we realize fully that chronic disease is destined to become a major problem through the "traumatisms" inflicted by our civilization and through the ailments incidental to an increased span of life for large segments of future populations, it becomes evident that those who planned the development of the Saratoga spa were incredibly wise.

We could afford to be skeptical and "high-hat" in the old days about the efficacy of the CO_2 baths and the naturally mineralized potations, but now, ironically enough, we shall be constrained to demand a service of them that may prove inadequate. For at the same time that their high therapeutic efficacy is thoroughly established a plague of chronic disease arises which needs them desperately.

Miscellany

In a Nutshell

The complaint in this country is not with the quality of medical care, but with the inability of a considerable portion of the population to purchase same. The same difficulty exists with respect to food, clothing and sanitary housing. Obviously, the remedy is to increase the purchasing power of labor rather than lower the standards of medical service and demolish the economic opportunities of the physician.

—Oscar H. Bohm, M.D.
in the Yonkers *Medical News*

Super-Boondoggling

Remember the boondoggler who used to go around asking New York families how often they had chicken for dinner and who got the neck?

Well, he's back, bigger, as they say, and with a longer and snoopier nose than ever.

Six hundred of him, in fact, costing more than $10,000 a week.

Someone in Washington had a bright idea, so they are going to spend their time and YOUR money asking typical New Yorkers what they do with their incomes.

They will want to know all sorts of things. How much soap you use for the washing, what your bill for razor blades comes to, and whether you have a refrigerator or a skeleton in the closet.

The prize question of all is: "How much do you spend for aspirin?"

Well, the answer of every taxpayer to that is—"In the last three years, plenty!"

—*New York American*

Ed. Note: The assumption being, that *everybody regularly uses aspirin*—which is an appalling assumption.

Contemporary Progress

(Concluded from page 192)

due to the use of this drug are "no longer a rarity." Dinitrophenol greatly increases body oxidation, and also raises the general metabolic rate, although there are no other signs of thyroid overstimulation. In the case reported, cataract developed in both eyes after eleven months of dinitrophenol medication for weight reduction, a total amount of about three ounces of the drug had been taken in that time. Examination showed complete lens-capsule liquefaction, the lens nucleus was small, shrunken and of brownish color. Operation was done in both eyes and vision was good with proper adjustment. The blood calcium fell below normal and clinical signs of tetany appeared; under treatment with calcium lactate by mouth and intramuscular injections of parathyroid extract, the patient made a good recovery. It seems possible that in this instance, the lens changes were associated with parathyroid deficiency and were a type of tetany cataract, although not showing the usual appearance of this type of cataract. It is also suggested that other cases of cataract from dinitrophenol poisoning may be connected with parathyroid deficiency.

Hyaline Membrane on the Posterior Surface of the Cornea

C. A. Clapp (*Southern Medical Journal, 29*:119-122, February, 1936) reports a case in a man aged thirty-six years, whose vision in the left eye had always been poor. Examination showed a hyaline membrane on the posterior surface of the cornea, leaving only a small area clear in the upper nasal quadrant; the central portion of the right cornea was clear, but there was a semi-transparent membrance on the posterior surface around the periphery. The left cornea was smaller than the right. A few other cases showing similar membranes on the cornea have been reported and these are briefly reviewed. The author believes that this condition results from low grade prenatal intrauterine inflammation.

Medical Library Association

(Concluded from page 194)

demonstrations on library procedure, medical history and literature.

This Association consists of about 175 of the medical libraries of this country and Canada, together with their librarians and a group of supporting members who are physicians interested in the advancement of medical libraries.

The officers of the Association are as follows:
President, Dr. W. W. Francis, Montreal.
Vice-President, Dr. A. H. Sanford, Rochester, Minn.
Secretary, Miss Janet Doe, New York.
Treasurer, Miss Mary Louise Marshall, New Orleans.
Chairman of Executive Committee, Miss Marjorie J. Darrach, Detroit.

All interested in the development of medical libraries and a wider knowledge of medical literature are invited to attend.

MEDICAL BOOK NEWS

Edited by TASKER HOWARD, M.D.

All books for review and communications concerning Book News should be addressed to the Editor of this department, 1313 Bedford Avenue, Brooklyn, New York.

June, 1936

CLASSICAL PARAGRAPHS

When we consider how often the teeth, when decayed, are exposed to irritation from hot and cold drinks and ailments from pressure by mastication, and from the cold air, and how intimate the connection of the mouth is with the whole system, I am disposed to believe they are often the unsuspected causes of general, and particularly of nervous diseases. When we add to the list of those diseases the morbid effects of the acrid and putrid matters, which are sometimes discharged from the carious teeth, or from the ulcers in the gums created by them, also the influence which both have in preventing perfect mastication, and the connection of that animal function with good health, I can not help thinking that our success in the treatment of all chronic diseases would be very much promoted, by directing our inquiries into the state of the teeth in sick people, and by advising their extraction in every case in which they are decayed.

Benjamin Rush, Medical Inquiries and Observations, Third Edition. Vol. 1. Reprinted in Classic Descriptions of Disease, Ralph H. Major. Charles C. Thomas, Baltimore, 1932.

An Important Book on the Foot

THE HUMAN FOOT. Its Evolutionary Development, Physiology and Functional Disorders. By Dudley J. Morton. New York, Columbia University Press, [c. 1935]. 244 pages, illustrated. 8vo. Cloth, $3.00.

This book deals with an intensely interesting subject; the evolutionary development, physiology and functional disorders of the human foot. It represents a revolutionary advance in the subject, and is the cumulation of the author's experience and research. The monograph is divided into three parts.

The first part of the book deals with the evolutionary development of the foot from the origin of the earliest fishes through the amphibian, reptilian, mammalian and early primates. The pro-anthropoid and anthropoid changes, the terrestrial modifications of the gorilla and early pre-human feet, and finally the course of human evolution and the development of the human foot are traced, showing how gravity and muscle action are designing factors in evolutionary development.

Part two deals with the physiology of the foot. The relation of the center of body weight to foot function; the relation of weight distribution and axis of balance to foot stance, and of structural stability and postural stability to foot balance; the studies on gravity and propulsion, and the angle of gait in locomotion; and the mechanics of the foot in walking and running are described. The above being the basis for the study of functional disorders.

Part three gives an entirely new concept on the functional disorders of the foot, the chief factors being: shortness of the first metatarsal bone, posteriorly located sesamoid bones, dorsal hypermobility of the first metatarsal segment, variations in supinator-pronator strength and shortness of the calf muscles. Methods of determining these factors and methods of treatment are discussed.

This book should arouse considerable interest whether it be academic or professional. It is a great contribution to Orthopedic surgery, and from its clinical aspects should lead to new principles of treatment.

HENRY P. LANGE.

A New English Anatomy

REGIONAL ANATOMY. By J. C. Hayner, M.D. Baltimore, William Wood & Company, [c. 1935]. 687 pages. 8 vo. Cloth, $6.00.

This volume consists of 687 pages without illustrations. It is essentially a book adapted to dissection. Chapter arrangements are according to the various regions of the body, and the descriptive texts of these regions are concisely described. The B. N. A. terminology is used almost exclusively. However, the author has exercised his right to use, what in his opinion, is the best descriptive term for the student.

So far as we know, this is the only book that has undertaken to present to the student, regional anatomy in a purely descriptive form, and as the description is readable and concise, it makes an excellent volume for the student of anatomy who is going to supplement the text with regional charts and drawings.

The preparation of a volume on regional anatomy represents a great deal of work and the author is to be commended for his undertaking.

HERBERT T. WIKLE.

Lipoid Metabolism

THE BIOCHEMISTRY OF THE LIPIDS. By Henry B. Bull. Minneapolis, Burgess Publishing Company, [c. 1935]. 127 pages, illustrated. 4to. Fabrikoid, $3.25.

The lipids are a comprehensive group of substances found in nature, including lipoids, neutral fats, fatty acids, stereos, cholesterols and their esters, etc. Generally they are substances insoluble in water and soluble in the fat solvents; such as, chloroform, ether, or benzene.

The part played by the lipids in normal cell structure; the abnormal lipide structure of the cancer cell; the recent

identification of a basic cholesterol structure in the sex hormones; the determination of the molecular arrangement of the fat soluble vitamins; lipide metabolism and its relation to diabetes, arteriosclerosis, cholelithiasis, and thyroid disease, give a clew to the important place in medicine the lipids will take. The whole concept of pathology may be completely changed as the knowledge of lipide biochemistry increases.

The author has been engaged in teaching a course on the biochemistry of the lipids at the University of Minnesota. This volume consists of his notes on the preparation and presentation of material for the course. It is published because there is no available book on the subject. It is well arranged, the choice of material is good, and is of particular value to research groups and physicians working in metabolism and nutrition.

The material presented covers sufficient work on the physiology of the lipids to make the volume of general interest. This collection of references should be a stimulus to thought and interest in the field of lipide biochemistry—a field which has such vast possibilities.

P. C. ESCHWEILER.

The Child with a Birth Palsy

NEW PATHWAYS FOR CHILDREN WITH CEREBRAL PALSY. By Gladys G. Rogers and Leah C. Thomas. New York, The Macmillan Company, [c. 1935]. 167 pages, illustrated. 8vo. Cloth, $2.50.

The authors point out that children with cerebral spastic paralysis form the second largest group amongst crippled children. In dealing with this type of paralysis the most difficult problem is to adjust these children to life itself, hence, a life plan and an educational program is most important. The second consideration is improvement of the paralyzed extremities.

The source of experience upon which this book is based is a camp run for this type of child. A program is presented showing how muscle training may be obtained through indirect activities, such as the use of toys, and other play apparatus. There is also a good discussion of the surgical aspects of cerebral birth palsies.

The book contains interesting illustrations and an unusual reference list. It should be read by the entire profession.

STANLEY S. LAMM.

More International Clinics

INTERNATIONAL CLINICS. A Quarterly of illustrated clinical lectures and especially prepared original articles on Treatment, Medicine, Surgery, Neurology, etc. Volume 4, 45th Series, 1935. Edited by Louis Hamman, M.D. Philadelphia, J. B. Lippincott Company, [c. 1935]. 331 pages, illustrated. 8vo. Cloth, $3.00.

From the standpoint of the general practitioner, this issue can hardly prove as valuable as its forerunners. While some of the common ailments, such as diabetes, are competently discussed, one is left with the impression that the standard textbooks on the respective subjects are still to be depended upon for reference purposes.

There are, however, a few articles which are of distinct value and which deserve the serious attention of every doctor. One author makes the interesting remark that approximately 50% of all pregnant women suffer more or less from hypochromic anemia which is transmissible to the offspring. Fortunately, this anemia can be readily controlled with iron therapy during pregnancy. Then there is a summary of the more recent methods in the diagnosis and treatment of peripheral arterial disease, with the emphatic warning that amputation spells therapeutic defeat.

And finally, one of the most valuable articles to be found in this, or in any periodical, is on the present status of vaccines. It is a straight-forward estimation of the commonly used vaccines and their shortcomings.

EMANUEL KRIMSKY.

Midwifery of the Masters

CLASSICAL CONTRIBUTIONS TO OBSTETRICS AND GYNECOLOGY. By Herbert Thoms, M.D. Springfield, Charles C. Thomas [c. 1935]. 265 pages, illustrated. 8vo. Cloth, $4.00.

As Howard Kelly well says in the foreword to this delightful book "Today, more than ever before, do we need the refining influence of the culture of medical history to rescue our profession from the universal gravitational tendency of a gross materialism wedded to the worship of the golden calf." No better occasion could be found, if we need one, why we should read this book.

Thoms has so long worshipped the gods of medical history that he is peculiarly qualified for the pleasant task of selecting for us fifty-nine abstracts of the great contributions to clinical obstetrics and gynecology upon which our art rests. Soranus, Paré, Mauriceau, Smellie, Braxton Hicks, Crede, Baudelocque, Sims and many others live again in these pages. Title pages, portraits and biographical sketches add color and interest to the work, which is all too short. With fine judgment Thoms has collected material of the greatest interest, and has rendered us all a real service. A source of inspiration, every physician should read this admirable book.

CHARLES A. GORDON.

About Applied Psychology

PERSONALITY MALADJUSTMENTS AND MENTAL HYGIENE. A Textbook for Psychologists, Educators, Counselors, and Mental-Hygiene Workers. By J. E. Wallace Wallin, Ph.D. First edition. New York, McGraw-Hill Book Company, Inc., [c. 1935]. 511 pages. 8vo. Cloth, $3.00.

It was appalling to see this book advertised as a primer for those interested in the foundations of mental hygiene. The prolixity of the contents and manner are downright confusing, for it is the essence of an introduction or primer to be primary; this book disdains basic concepts and throws everything imaginable into the breach. Frankly, we could not find our way about in it and crawled out with the impression that it might best be used as a reference book for journalistic causerie about those funny people who have "complexes" and need a psychiatrist. The author is not a physician and, apparently, not even an academic psychologist.

SAM PARKER.

A Delightful Biography of Leroy Crummer

A DOCTOR'S ODYSSEY. A sentimental record of LeRoy Crummer, Physician, Author, Bibliophile, Artist in Living, 1872-1934. By A. Gaylord Beaman. Baltimore, Johns Hopkins Press, [c. 1935]. 340 pages, illustrated. 8vo. Cloth, $2.50.

This is a biography of an internationally known physician who ranks with William Osler and Harvey Cushing in scholarly attainment and ability as a practitioner. He was an ardent student of medical history, and an indefatigable collector of rare medical books. The author gives us a fine portrayal of his vigorous life, well spent, not only in successful medical practice, but also in a consistent effort to know the great historical facts in the evolution of his chosen profession. He reveals in Dr. Crummer a delightful personality of the Hippocratic School, devoted to his patients, generous to a fault, and meticulous in his ethical relations. The author's style is pleasing and he has collated and presented his facts in a manner which not only pays tribute to an outstanding American physician, whose high ideals of life and lovable nature brought him a host of admiring friends, but whose learning and accomplishments easily place him amongst the best in American medicine. The book appeals to one as a valuable contribution to the history of the healing art in this country, which should find a place in the library of every cultured physician.

J. M. VAN COTT.

A Brief Treatise on Burns

THE MODERN TREATMENT OF BURNS AND SCALDS. By Philip H. Mitchiner, M.D. Baltimore, William, Wood & Company, [c. 1935]. 64 pages, illustrated. 8vo. Cloth, $2.00.

This treatise on burns is by an English Surgeon of extensive experience. It comprises 60 odd pages with many excellent illustrations, some colored. The author is enthusiastic, offering results obtained by the tannic acid treatment of burns. As we know, this treatment was first popularized by E. C. Davidson in 1925.The author of this monograph gives in great detail, the method of carrying out the treatment. He also considers as corollary to this treatment the handling of the other phases of burns such as shock, collapse, toxemia and scarring.

While the author makes no claim to originality, the entire presentation is so straightforward and so simple as to win the approval of the reviewer.

We believe that this is the correct treatment of burns, and it is for this reason that we recommend its perusal by all practicing physicians and surgeons.

ROBERT F. BARBER.

Radium in Dermatology

RADIUM TREATMENT OF SKIN DISEASES, NEW GROWTHS, DISEASES OF THE EYES AND TONSILS. By Francis H. Williams, M.D. Boston, The Stratford Company, [c. 1935]. 118 pages, illustrated. 12mo. Cloth, $2.00.

The author, who apparently was one of the early users of radium, cites some of his interesting experiments in determining the dosage of radium for various treatments. Contrary to expectation, however, he does not minutely set down the method of procedure, including dosage, number of treatments, and interval between treatments in specific cases, so that one with comparatively little experience in the use of this element could go ahead without further study.

He recommends radium for various skin diseases; some of these recommendations seem rather doubtful, but in no instance has he recorded more than the number of cases treated, and the results, without a tangible statement of the exact treatment rendered. He describes in detail his intriguing instrument devised for treatment of the eyelids and eyes.

Treatment of the eyes, tonsils, etc., by radium is reported with but little more detail than that of the skin. Many case reports are included, but, all in all, the book is largely a record of his own satisfactory experience with the use of radium over many years, rather than a text book on the technic of treatment.

E. Almore Gauvain.

Third Edition of Shennan's Post Mortems

POST MORTEMS AND MORBID ANATOMY. By Theodore Shennan, M.D. Third edition. Baltimore, William Wood & Company [c. 1935]. 716 pages, illustrated. 8vo. Cloth, $9.00.

An extremely practical volume is thoroughly revised and enlarged in this third edition. There are very few texts that outline necropsy technics as completely. Still less frequent are those that furnish detailed gross pathology so fully. Micropathology has not been elided but the emphasis throughout has been placed upon the gross.

Notable features in this work are the use of synonyms of morbid processes, the description of entities usually found in special monographs, and the chapter descriptive of post mortem appearances in deaths from poisoning. The somewhat frequent British references are not obvious, but a number of photographic reproductions are poor judged by present day standards. The regional arrangement of the exceptionally complete material is well adapted for quick reference.

This textbook, prepared for the student, will be frequently used by pathologists and medical examiners and it undoubtedly will be an invaluable guide for physicians, surgeons, and those interested in medico-legal-practice.

Irving M. Derby.

Authoritative Work on Water Metabolism

BODY WATER, THE EXCHANGE OF FLUIDS IN MAN. By John S. Peters, M.D. Springfield, Charles C. Thomas [c. 1935]. 405 pages. 8vo. Cloth, $4.00.

This book, by a master clinician and chemist, is the result of many years of study, both in the clinic and the laboratory, on the movement and distribution of solutes and water in the human body.

Professor Peters has succeeded in elucidating the complex subject of physico-chemical dynamics, not only in a very clear and concise manner, but he has also presented it in a style that lends itself to easy reading. Each of the twelve chapters opens avenues of information which is easily depicted and readily grasped, even by one who may be little familiar with complex physico-chemical phenomena.

The author treats the subject in a practical and systematic manner. He first vividly illustrates the forces which control the exchanges of fluid and solutes, and then the physico-chemical changes that take place in pathological conditions. The mechanism of exchange between blood and interstitial fluids, blood cells and serum, etc., are thoroughly presented. The various theories and evaluation of such mechanism are fully discussed. In the chapter of the nature of renal activity, Professor Peters reviews the theories of renal physiology; the old controversial conceptions of the Ludwig and Heidenhain schools are fully described. The mechanism of the excretion of organic solutes, water and inorganic salts is very clearly presented. Finally, the author discusses the nervous and hormonal control of urine excretion.

The entire subject is presented by a master in a masterly manner, and no one, whether he be an internist, surgeon, student, or laboratory man, should miss reading this book.

S. J. Cohen.

For the Ophthalmologist

OCULO-REFRACTIVE CYCLOPEDIA AND DICTIONARY. By Thomas G. Atkinson, M.D. Second edition. Chicago, The Professional Press, Inc. [c. 1934]. 384 pages, illustrated. 8vo. Cloth, $5.00.

In reviewing this book one must consider its title—"an oculo-refractive cyclopedia and dictionary." It is in fact not an encyclopedia but a very good dictionary on refraction, with large chapters on such subjects as vision, physiology of vision, the physiology of optics, and the various phorias. There is also a good chapter on ophthalmoscopy and retinoscopy. All of which, of course, can be found in a good, standard text-book on ophthalmology.

As a dictionary it should prove to be of value as a ready reference for the technical details and definitions relating especially to optics.

Oscar Rodin.

Nature and Treatment of Stammering

FOR STUTTERERS. By Smiley Blanton, M.D., & Margaret G. Blanton. New York, D. Appleton-Century Company, Inc. [c. 1936]. 191 pages. 12mo. Cloth, $2.00.

Dr. Blanton has spent many years in the study of psychiatry and its application to the field of speech disorders. With the able assistance of Mrs. Blanton this book is presented from the point of view of psychiatric interpretation of stuttering. Although the authors indicate that the book is primarily for stutterers, the underlying broad basis of modern psychiatry, psycho-analysis, and mental hygiene which permeates the book, will make it worth while reading for physicians. The basis of stuttering is presented as due to an emotional difficulty which underlies the entire personality of the individual so afflicted. In contradistinction to most other books on stuttering, where treatment is usually limited to a few pages, the authors devote more than half of the book to this important topic. This work, although designated "for stutterers," is not meant to be a method of self-treatment. After reading it, however, the intelligent stutterer should realize where his help lies, and what to expect from treatment.

I. W. Karlin.

Pathology in History

DISEASE AND DESTINY. By Ralph H. Major, M.D. With a preface by Logan Clendening, M. D. New York, D. Appleton-Century Company, [c. 1936]. 338 pages, illustrated. 8vo. Cloth, $3.50.

This book reveals the far-flung effects of disease in every age upon notable individuals and social systems—upon chieftains, statesmen, writers and artists of every type, armies, castes, trade, governments and continents. The author shows disease to be a dominant phenomenon forever changing the course of history. Familiar with original sources and acquainted at first hand with the localities discussed, he has, as Logan Clendening says in the preface, metabolized his learning. The ten chapters of the book discuss the influence upon persons, places and events of the plague, jail fever, tuberculosis, smallpox, diphtheria, malaria, leprosy, yellow jack, hemophilia and syphilis.

Dr. Major's manner of dealing with medical history recalls the admirable pioneer work of the late Dr. Charles MacLaurin, author of *Post Mortem* and *Mere Mortals*. MacLaurin, we fancy, would have dealt with Lenin and the recent course of Russian history in much the same way. Dr. Major holds Lenin's paresis related in some sort to "the greatest cataclysm in all history."

When this method of interpreting human events to which disease bears definite relation is better established—as it should be—we shall be better able to interpose objections to the vesting of arteriosclerotics and paretics—now almost a matter of chance—with power wherewith to stage and wage war and to enact treaties on the order of Versailles.

Arthur C. Jacobson.

Stimson on Contagious Diseases Revised

A MANUAL OF THE COMMON CONTAGIOUS DISEASES. By Philip Moen Stimson, M.D. Second Edition. Philadelphia, Lea & Febiger, [c. 1936]. 437 pages, illustrated. 12mo. Cloth, $4.00.

This volume by Dr. Stimson is the second edition of his clinical guide or manual which he has thoroughly revised. The author's aim has been to present in a reasonably clear and concise manner the salient features of the more common contagious diseases. The book has been revised to include descriptions of recent developments in the knowledge of these diseases. The author refers to many, but by no means all, of the recent contributions. The material is presented in a brief and simple way. Detailed descriptions and more complete scientific explanations are not dwelt upon at length. The book is definitely practical and not a reference work. The bibliographies at the end of each chapter have been enlarged according to the author's plan.

JOSEPH C. REGAN.

Pneumonia in Boston

LOBAR PNEUMONIA AND SERUM THERAPY. With Special Reference to the Massachusetts Pneumonia Study. By Frederick T. Lord, M.D. and Roderick Heffron, M. D. New York, The Commonwealth Fund, [c. 1936]. 91 pages, illustrated. 8vo. Cloth, $1.00.

This brief presentation of the indications, methods of administration and results of the study made in Massachusetts upon pneumococcus pneumonia is an excellent work on this form of treatment. The object is to prove that serum may be used outside of hospitals and can be given by the one caring for patients at their homes. The subject is concisely and carefully reviewed, and will be informative and of value to anyone studying this volume.

This study of serum treatment in these cases has been sponsored by The Commonwealth Fund.

HENRY M. MOSES.

Life Expectancy

LENGTH OF LIFE. A Study of the Life Table. By Louis L. Dublin. Ph.D., & Alfred J. Lotka, D.Sc. New York, The Ronald Press Company, [c. 1936]. 400 pages. 8vo. Cloth, $5.00.

This book represents a compilation of up-to-date duration of life and expectancy tables with interesting comments.

Chapter three "The Gain in the Expectancy of Life in Recent Years in the United States" is somewhat interesting.

A recompiling of old life duration tables is of some practical value to life insurance experience.

The data used in hypothesis to compile these tables are usually inaccurate and therefore follows the usual trend of statistical study which is scientifically meaningless.

G. HOLBROOK BARBER.

Reminiscences of a Country Doctor

DOCTOR OF THE NORTH COUNTRY. By Earl Vinton McComb, M.D. With a preface by Logan Clendening, M.D. New York, Thomas Y. Crowell Company, [c. 1936]. 238 pages. 8vo. Cloth, $2.00.

For light reading, and perhaps also for a review of the experience of most of us in our own past life, this volume will afford much interest. The work, a compilation of the author's experiences as a practitioner in an out of the way country town, presents a series of typical cases which necessarily fall to the lot of a doctor so located. Many of them are remarkable and the social problems confronting the doctor bring out the versatility of one who has to depend upon himself alone for the solutions of his difficulties. This book is the latest of several that the author has written, and the reading of it will give much satisfaction.

EUGENE W. SKELTON.

Advice to Mothers

YOUR CHILD IN HEALTH AND IN SICKNESS. By Hugh L. Dwyer, M. D. New York, Alfred A. Knopf, [c. 1936]. 333 pages, illustrated. 8vo. Cloth, $2.75.

This book begins before the baby comes, and follows through babyhood, childhood and school age to adolescence, as a partial list of the table of contents shows: Before the Baby Comes; The Newborn Infant; The Baby's Daily Routine; Growth and Development; Breast Feeding; Bottle Feeding; The Vitamins; Diseases of Nutrition; Training and Mental Health; The Contagious Diseases; The Common Diseases of Childhood.

It has 38 illustrations which add to the value of the text, and is printed with type that makes for easy reading.

The simplest form of artificial feeding is given in table form from birth to 8 months, namely, cow's milk, water and sugar. No personal preference is expressed for sugar, but recognition is given to the fact that the double sugar, maltose and dextrin, is more widely used. No mention is made of the latest trend to milk sugar again.

Close supervision of the infant by the physician during the first year is advised, and the mother or children's nurse who follows this book will be bringing the baby up in the approved way, and will have a better child as her reward.

ARCHIBALD D. SMITH

BOOKS RECEIVED

Books received for review are acknowledged promptly in this column; we assume no other obligation in return for the courtesy of those sending us the same. In most cases, review notes will be promptly published shortly after acknowledgement of receipt has been made in this column.

A STUDY OF MASTURBATION AND THE PSYCHOSEXUAL LIFE. By John F. W. Meagher, M.D. Third edition Reedited and Revised by Smith Ely Jelliffe, M.D. Baltimore, William Wood and Company, [c. 1936]. 149 pages. 12mo. Cloth, $2.00.

TIME OF OVULATION IN WOMEN. A Study of the Fertile Period in the Menstrual Cycle. By Carl G. Hartman. Baltimore, Williams & Wilkins Company, [c. 1936]. 226 pages, illustrated. 8vo. Cloth, $3.00.

THOSE WERE GOOD DAYS: By Carl Ludwig Schleich. Translated by Bernard Miall. New York, W. W. Norton & Company, [c. 1936]. 280 pages, illustrated. 8vo. Cloth, $3.50.

AMERICAN MARTYRS TO SCIENCE THROUGH THE ROENTGEN RAYS. By Percy Brown, M.D. Springfield, Charles C. Thomas. [c. 1936]. 276 pages, illustrated. 8vo. Cloth, $3.50.

NATURAL WEIGHT CONTROL. By Dr. R. H. Williams. Glendale, Williams Institute, Inc., [c. 1935]. 46 pages. 4to. Paper, $1.00.

MEDICAL HISTORY OF CONTRACEPTION. By Norman E. Himes, Ph.D. Baltimore, Williams & Wilkins Company, [c. 1936]. 521 pages. 8vo. Cloth, $7.00.

ROENTGENOGRAPHIC TECHNIQUE. A Manual for Physicians, Students and Technicians. By Darmon A. Rhinehart, M. D. Second edition. Philadelphia, Lea & Febiger, [c. 1936]. 431 pages, illustrated. 8vo. Cloth, $5.50.

OTOSCLEROSIS. By Louis K. Guggenheim, M.D. St. Louis, Louis K. Guggenheim. [c. 1935]. 212 pages, illustrated. 4to. Cloth, $6.00.

THE BALANCED DIET. By Logar Clendening, M. D. New York, D. Appleton-Century Company, [c. 1936]. 207 pages, illustrated. 12mo. Cloth. $1.50.

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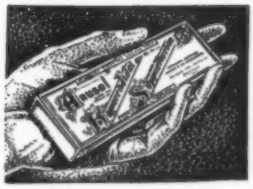

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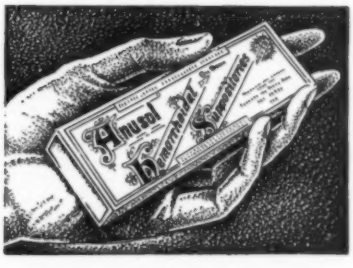

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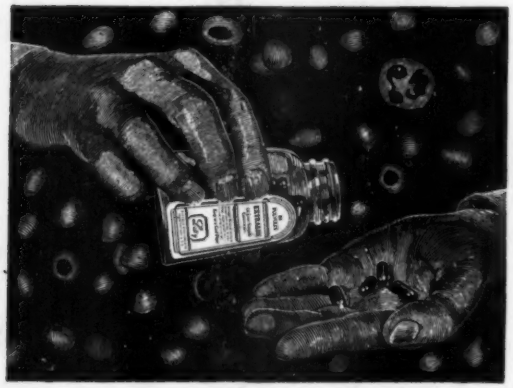

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